The Vanuatu Organic Cocoa Growers Association (VOCGA) : A Case Study of Agriculture for Growth in the Pacific

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2 Acknowledgements

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Exchange rates

Vatu per unit of foreign currency (mid market rate)

	USD	AUD	FJD
Nov 22, 2009	96.00	86.3	50.0

Source: Universal Currency Convertor

3 Acronyms

ACIAR	Australian Centre for International Agriculture Research
BCCDRP	Bougainville Cocoa and Copra Dryer Rehabilitation Project
CDC	Commonwealth Development Corporation
CGA	Vanuatu Cocoa Growers Association
ECF	Enterprise Challenge Fund - AusAID
FACT	Facilitating Agricultural Commodity Trade – EU/SPC
FSA	Farm Support Association
GAP	Good Agricultural Practice
HTFA	High Temperature Forced Air
ICCO	International Cocoa Organisation
IPDM	Integrated Pest and Disease Management
NBV	National Bank of Vanuatu
NWC	Natures Way Cooperative (Fiji) Ltd
PIC	Pacific Island Countries
POP	Producer Organization Project
POPACA	Projet d'Organisation des Producteurs Agricoles pour la Commercialisation Associative
PPP	Public Private Partnership
VARTC	Vanuatu Agricultural Research and Training Center
VCCE	Vanuatu Copra and Cocoa Exports
VCMB	Vanuatu Commodities Marketing Board
VOCGA	Vanuatu Organic Cocoa Growers Association

4 Executive Summary

Over the last 5 years Vanuatu has enjoyed strong economic growth. The excellent overall growth performance has not been matched by commodity exports. If growth is to be more broadly based and sustainable it needs to contain a much larger small holder agricultural component. This study looks at organic cocoa to see how more broadly based and sustainable growth might be achieved through the development of commodity niche markets.

Vanuatu and Samoa have the oldest cocoa industries in the South Pacific. Over the last decade, Vanuatu's production has oscillated around 1,000 to 1,200 tonnes. Cocoa exports, as with copra and coconut oil, have shown a downward trend. In 2008, Vanuatu exported 1,058 tonnes of cocoa, for a fob value of 240 million vatu. This represented 6% of Vanuatu's total export earnings, lying behind coconut products, beef and kava.

A major advantage that cocoa offers smallholders is that it can be integrated into a food garden or grown under mature coconuts. Through the Vanuatu Organic Cocoa Growers Association (VOCGA) the returns from cocoa have been greatly increased while still remaining a component of the traditional farming systems.

During two decades of monopoly cocoa marketing by the Vanuatu Commodity Marketing Board (VCMB) farmers were not able to take advantage of significant price premiums available for organic and single origin cocoa. It is only now that these markets have become a realistic prospect. The VOCGA case study looks at how a Pacific island enterprise has taken advantage of these opportunities. Ni-Vanuatu cocoa growers, with their long tradition of fermentation are well placed to sell to secure markets at a premium price. In addition, there are niche market possibilities for single origin and organic cocoa. Good fermentation, adhering to high quality standards, is fundamental to accessing all these market options.

Single origin chocolate is made from cocoa beans sourced from an identified geographic region. Single origin chocolates are now becoming an important part of the European and American markets, which are willing to pay premium prices for quality beans that meet the required specifications. The French organic chocolate manufacture KAOKA, is expected to launch Vanuatu single origin chocolate in 2010.

There is an opportunity to develop niche organic markets, capitalising on the increasing health concerns and environmental awareness of consumers. There is a strong interest in organic cocoa in Europe, due to high pesticide residue levels found in some chocolates manufactured from African and South American beans. Around 15,000 tonnes of certified organic cocoa beans are marketed annually, representing less than 1 percent of total world cocoa production (3 million tonnes).

Within the Pacific region, only Vanuatu is taking advantage of certified organic cocoa markets. Pacific Island cocoa producers have a number of distinct advantages that should assist in the development of a certified organic cocoa sector.

These include:

- A positive marketing image, based on a perception of relatively unpolluted and unspoilt environments
- Opportunities to utilise existing production systems
- High international demand for products that are technically feasible to produce organically
- A willingness from donors to provide technical assistance to support organic agriculture.

The genesis of VOCGA was a visit to Vanuatu in 1989 by the CEO of the French organic chocolate manufacturer KAOKO. Following this visit a proposal was prepared to establish a producer organization project which would facilitate the development of a certified organic

cocoa production base. The French government agreed to fund such a project which resulted in the Vanuatu Organic Cocoa Growers Association (VOCGA).

VOCGA operates as an umbrella apex marketing cooperative under which there are primary processing cooperatives that supply organically certified dry cocoa beans. Each primary cooperative operates one or more centralized fermentaries. VOCGA now has a total of 1,205 members. Exports of organic cocoa commenced 2006, with 400 tonnes shipped to France. The forecast exports for 2009 is 312 tonnes.

VOCGA arranges the shipment of organically certified cocoa beans to the French chocolate manufacturing company KAOKA. The transparent pricing formula used price results in a significant price premium being paid dried cocoa beans. VOCGA operates on modest marketing margins for which it provides high quality marketing services. In October 2009 with the average world cocoa price for the month at US$ 3142/tonne, VOCGA growers were receiving a dried bean price of 174vatu/kg. The dried bean price paid by the Cocoa Growers Association (CGA) for conventional cocoa at the time was 120 vatu/kg price. VOCGA primary processing cooperatives receive around 75% of the fob price.

The returns to labour for VOCGA members growing cocoa under coconuts is now double what it was under previous marketing arrangements. For members growing cocoa in a traditional food garden these returns to labour have trebled.

The cocoa supplied to KAOKA must not only be organically certified, it must also be of high quality. VOCGA requires its member processing cooperatives to strictly adhere to a series of processing steps and maintain their facilities in good order. KAOKA, after four years of importing VOCGA certified organic cocoa, is now sufficiently confident of the quality and supply consistency to launch a Vanuatu single origin chocolate. This result is a far cry from the inferior quality usually associated with Vanuatu cocoa.

The 1205 VOCGA shareholders are village based small holders who supply wet beans to the processing cooperatives. In October 2009, the prevailing wet bean price for the primary cooperatives was 60 vatu/kg. This compared with 50 vatu/kg paid by CGA to their suppliers of non organic cocoa.

Through the improved marketing provided by VOCGA the participating small farmers have been able to substantially increase their income. The improvements in marketing have been in a number of areas, including:

- the abolition of the inefficient VCMB monopoly;
- the access to high value niche market through the involvement of KAOKA;
- the enforcement of strict quality standards by VOCGA; and,
- the competent management of VOCGA

There remains considerable scope to further improve farmer returns by increasing their productivity. Yields remain low – around 500 kg/ha. These could be significantly improved through better management – particularly in the areas of pruning and sanitation.

Small holder cocoa production in Vanuatu has always essentially been organic in the sense that chemicals and fertilisers are not used. The major challenge for organic certification is in the auditing and compliance of some 1,200 small farmers and 25 primary processing cooperatives. KAOKA and VOCGA enter into a contractual agreement that requires VOCGA and its member cooperatives to strictly adhere to the organic standards (Bio Equitable) of the certifying agency ECOCERT. KAOKA also meets the cost of technical support and guidance to cooperatives. This includes the provision of a highly competent CEO for VOCGA.

VOCGA is responsible for the maintenance of systems that ensure the traceability of the product. This involves the internal production controls and the description of production plots and processing facilities. Good traceability is not only essential for certified organic production but is also becoming an increasingly important for other markets. VOCGA has never received reports of banned substances at any level of contamination.

It is in the empowering of rural youth that is perhaps the most important lesson learnt from the KAOKA/VOCGA experience. The age profile of the Board of Directors of VOCGA and the primary cooperatives is particularly striking. Management is made up almost entirely of young men in their twenties. The older farmers and elders after a series of meetings with the KAOKA team emphasized the importance of utilizing the youths to control the rural urban drift and as an incentive offered them key positions in the overall operation of VOCGA.

KAOKA-VOCGA and the primary cooperatives network have in place a highly efficient financing and cash flow management system. The system has resulted in the sustained payment of cash on delivery for wet beans at the processing centres. Cash on delivery is a critical incentive to small holders and often is of greater importance than the actual price received.

VOCGA faces a number of major constraints and challenges:

- Organic drying techniques more suitable for Vanuatu's wet conditions.
- High overhead cost of office and storage space rental.
- Sufficient supply.
- Maintaining organic discipline.
- Poor infrastructure for transport and communications.
- Predatory buyers.
- The continued involvement in the industry of the VCMB.

There is a considerable scope to increase this income by raising productivity within the context of existing farming systems through the introduction extension program based on the Integrated Pest and Disease Management (IPDM)/Farmer Field School methodology. VOCGA with its network of grower cooperatives would be ideally placed to implement such a program.

Specific applied research technical assistance is required in two areas:

- effective and organic compatible means for rat control
- improving the efficiency of sun drying techniques for Vanuatu's wet conditions.

The setting and enforcing of grading and organic standards is entirely an internal matter for KAOKA/VOCGA based on the specific requirements of their market. This is a departure from the Pacific islands norm were standards are set and enforced by a commodity board or government agency.

The export of organic and single origin cocoa has been entirely driven by the private sector, made possible by the deregulation of cocoa marketing. The development has been facilitated by two aid supported projects. Government, however, has a critical role to play in the sustainability of such ventures. In the case of VOCGA, this applies in three important areas:

- Providing a facilitating environment for an efficient and competitive telecommunications sector.
- The provision of road infrastructure.
- Applied cocoa research activities.

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Cooperatives have been highly successful agribusiness marketing cooperatives in countries such as the United States and New Zealand. In the Pacific islands, in contrast, the record of marketing cooperatives has been poor. The experience of VOCGA and Natures Way Cooperative (NWC) in Fiji has proven to be exceptions to the rule. What VOCGA and NWC have had in common is long term high quality management.

KAOKA can readily adsorb double the current supply of certified organic cocoa from Vanuatu. It would seem that VOCGA would have little difficulty in selling 1,000 tonnes of high quality certified organic/single origin cocoa in Europe and the United States. Exports of 1,000 tonnes could be achieved in a combination of ways:

- Increasing the yields of existing members through the introduction of improved farm management practices and on farm selection of better yielding trees.
- An amalgamation of VOCGA with CGA.
- Extending operations to new areas opened up by road infrastructure.

Organic certification and single growing export marketing is not new to Pacific islands. However, VOCGA is perhaps the largest and most significant development in this respect. The VOCGA experience has shown that Pacific island small holders, with the right organization and support, can successfully produce for certified organic and single origin markets on a significant scale. However, to be successful this requires the involvement of companies such a KAOKA who are willing to be proactively involved in the development of these industries including making significant investment. Examples of such companies and organizations are:

- Tanna Coffee and Venui Vanilla in Vanuatu
- Coconuts Pacific (Solomon Islands) Ltd.

A number of key factors have contributed the success of VOCGA. These are:

- The deregulation of cocoa marketing
- The proactive involvement of KAOKA in the establishment of VOCGA and in its continued operations.
- KAOKA/VOCGA's transparency in dealing with village small holders.
- The initial infrastructure support provided by the POP and POPACA Projects.
- The intensive involvement of high quality management.
- KAOKA/VOCGA's ability to manage cash flow to ensure that village farmers are paid cash on delivery for their wet cocoa beans
- The ability to integrate complex internal control systems into traditional farming systems.
- The establishment from the outset of clearly defined and enforceable quality standards.
- The empowerment of village youth to serve in management positions with the full support of their elders.

The main lessons from the VOCGA experience are:

- High quality cocoa exports can be a lead sector in broadly based economic growth.
- There are remunerative market opportunities available for organic and single origin commodities such as cocoa
- It is feasible to source significant volumes of certified organic product from Pacific island village farmers provided appropriate organizational support and internal control systems are in place.
- A substantial agribusiness can be successfully run as a cooperative in the Pacific islands if it has good management.
- Niche commodity export markets can only be developed if commodity marketing is deregulated and government and parastatal involvement removed.
- For niche commodity export industries quality standards should be set by the businesses developing the market and not by commodity boards and government agencies.
- These initiatives must be entirely private sector driven.
- Aid donors have an important facilitating role to play.
- Village youth can be empowered to take a successful leadership role in commercial agricultural development provided they get the necessary support from their elders.
- Companies wishing to source significant volumes of organic and single origin commodities from the Pacific islands need to be proactively involved in the development of these industries including making significant investment.

5 Introduction

5.1 The Vanuatu economy and agricultural sector

5.1.1 The agro geographical environment

Vanuatu comprises a chain of some 80 islands lying in a north-south direction in a rough Y shape over a distance of about 1,300 km. The country has a total land area of about 12,000 square kilometers with an exclusive economic zone that covers a sea area 60 times as large as its land surface. The two largest islands of Espiritu Santo and Malekula measure 4,248 and 2,053 square kilometres, respectively, and together with the next six largest islands comprise 87 % of the total land area. A summary of Vanuatu's topography and population distribution are provided by VANRIS:

- 35% of the country is "highland" (above 300 metres) and supports 10% of the population
- 8% of the country has low slope (less than 2 degrees) and supports 32% of the population; and,
- 55% of the country is steep land (greater than 20-degree slope) and supports 16% of the population.

Some 41% of the total surface area has soils of good fertility located in climatic and topographical conditions, which are favorable to agricultural and pastoral development. This is a much higher percentage of arable land than any other PIC. According to VANRIS, 25% of the country is used for village and other agriculture, while 35% is forested, and other vegetation covers 40%. Of this arable land, 24% is on coastal plains while 73% is on plateaus. Low available soil phosphorous (P), on acid soils, is usually the main soil fertility factor contributing to poor plant growth throughout the region. However, such conditions are less common in Vanuatu where many soils have as their base geologically recent emerged coral reef deposits.

Vanuatu's climate ranges from hot tropical to the north to almost temperate in Aneityum in the south. An overriding consideration in making decisions on land-use options in Vanuatu is cyclones. Vanuatu is one of the most cyclone prone regions on earth. There have been around 50 cyclones recorded in the last 120 years (South Pacific Disaster Reduction Programme p, 54).

Around 10% of the country has an average rainfall of less than 1,800-mm per annum, with a dry season falling between July and October. Cropping patterns have to be adjusted to this season pattern, but irrigation is necessary for most exotic horticultural crops. Every 5 to 7 years or so the dry season is pronounced and extended. These severe droughts can put agricultural activities under severe pressure. Human activities have created grasslands with exotic species in the drier sides of the bigger islands of Santo, Malekula, Efate, Erromango and Tanna. Such grasslands now form about 2% of the country's vegetation cover. The dominant vegetation type, covering about 34% of Vanuatu, is a highly disturbed low canopy thicket bush.

The preliminary count of the 2009 Population Census is 243,304. The population at the 1999 Census was 186,678 – with a growth rate of 2.8% per annum over the decade. Approximately 75% of the population lives in rural areas with 25% living in the two main urban centers of Port Vila and Luganville. The rural population growth is 2.4 % and urban growth 4.1% (4.7% in Port Vila). The rural population is dispersed amongst the island group, which until recently had limited communications with the urban centres. Shortage of land is already experienced in some more densely populated smaller islands. At current land use practices, and population growth rates, it is estimated that land shortages will become evident on the national scale in 20 to 30 year's time.

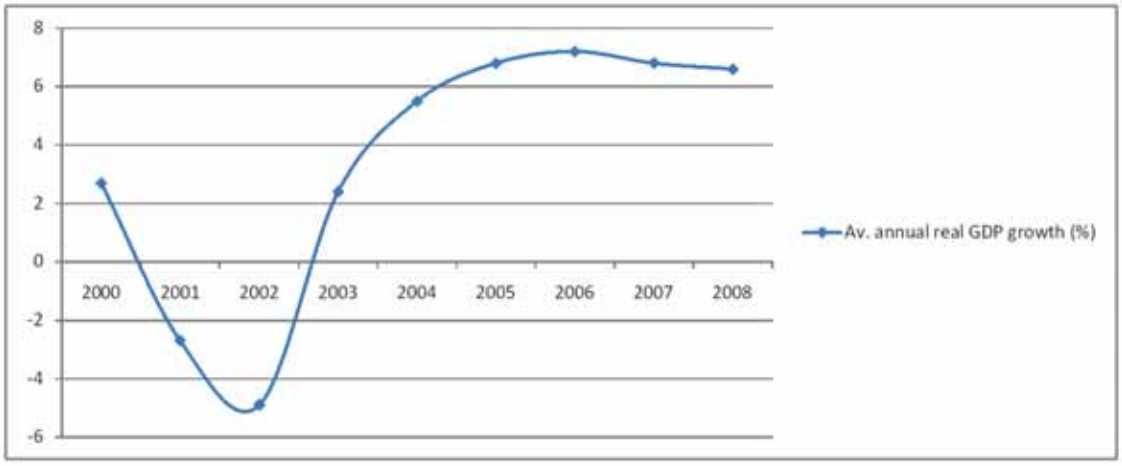
Vanuatu, of all the Pacific Island Countries (PICs), is the most dependent on agriculture with some 75% of the population living in the rural areas. The country is endowed with extremely

rich land resources and has a vibrant traditional production base which ensures a high level of food security. Agricultural exports (coconut products, cocoa, kava and beef) account for about 80 % of Vanuatu's total exports by value and agriculture officially accounts for 20% of GDP. However, the importance of agriculture is underestimated in GDP calculations[1].

Over the last 5 years Vanuatu has enjoyed strong economic growth and has been the stellar performer among the Pacific Island Country (PIC) economies (tables 1 and 2).

Table 1 Vanuatu real growth and inflation, 2000 - 2008

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Av. annual real GDP growth (%)	2.7	-2.7	-4.9	2.4	5.5	6.8	7.2	6.8	6.6
Av. annual inflation rate (%)	2.5	2.3	2.3	2.9	0.8	1.8	1.8	4.1	5.8

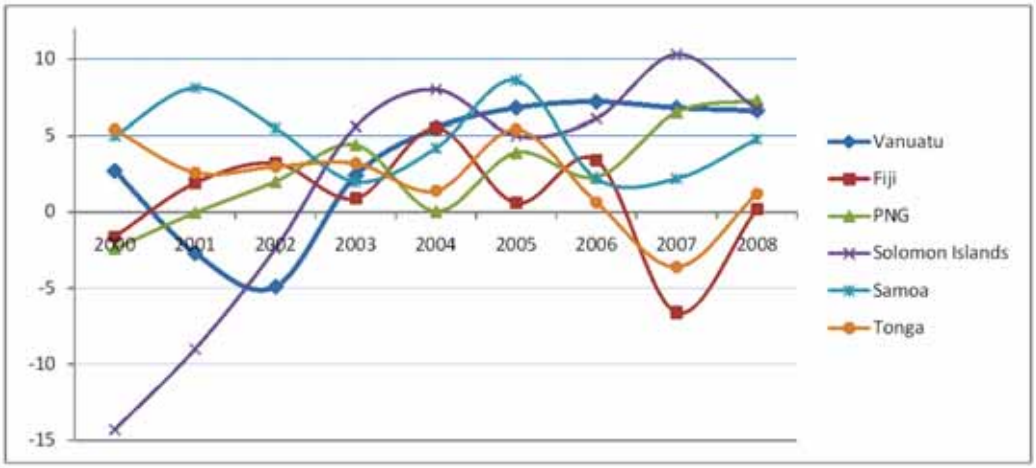


Source: Reserve Bank of Vanuatu Qrt. Reports (various Issues)

[1] In Vanuatu the official estimate of the value of subsistence is about 7% of GDP. However this estimate is derived indirectly from estimates of time spent in gardening made in the 1983 Agricultural Census. This methodology is likely to significantly under estimate the value of self-sufficiency. In Papua New Guinea, with a similar percentage of the population living in rural areas, subsistence is estimated at about 15% of GDP. Papua New Guinea uses"consumption", rather than a production approach to measure the value of non-market agricultural production (Bain, 1996, p 29). Utilising a simplified version of this methodology, a conservative approximation of the value of subsistence could be derived by comparing the estimated caloric of needs of the population, with calories supplied by imported rice and wheat flour the difference represents an estimate of calories supplied by subsistence agriculture. The estimate is about 4 billion vatu (about 16% of GDP) at the wholesale prices. These could be regarded as a minimum estimate of the value of subsistence, because no allowance is made for protein and vitamins that are also supplied by subsistence agriculture.

Table 2: Comparative real GDP growth performance of the Vanuatu economy, 2000-2008 (annual % change)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	Av. over period
Vanuatu	**2.7**	**-2.7**	**-4.9**	**2.4**	**5.5**	**6.8**	**7.2**	**6.8**	**6.6**	**4.63**
Fiji	-1.6	1.9	3.2	0.9	5.5	0.6	3.4	-6.6	0.2	0.94
PNG	-2.4	-0.05	2	4.4	0.05	3.9	2.3	6.5	7.3	3.00
Solomon Islands	-14.3	-9	-2.4	5.6	8	5	6.1	10.3	6.7	2.00
Samoa	5	8.1	5.5	2	4.2	8.6	2.2	2.2	4.8	5.33
Tonga	5.4	2.6	3	3.2	1.4	5.4	0.64	-3.6	1.21	2.41



Source: Central Bank and IMF Statistics

Howes and Soni (2009) argue that Vanuatu's growth performance over the last 5 years dispels the myth that the Pacific island economies cannot grow, and it confirms "the range of factors which are important for growth in the Pacific – tourism, active land markets, deregulation, and macroeconomic and social stability (p,1)." The strong growth performance is attributed directly to growth in tourism and construction. In 2002, tourism was estimated to be 17% of Vanuatu's GDP and 12% of employment. The average annual growth in visitor arrivals by air into Vanuatu was 12.5% between 2003 to 2008, compared to only 1.8% between 1995 and 2003 (Howes and Soni). Visitor arrivals in 2008 reached 90,657. Exceptionally coconut oil over the last few years was also a contributing factor to this high growth performance.

Vanuatu has often been characterized as a dualistic economy, with high disparities in income distribution between those in the formal, largely urban based economy, and those in the informal rural economy. Bazeley and Mullin (2006) note that Vanuatu has a Gini coefficient (a measure of income inequality)[2] estimated at between 0.56 and 0.58, which is one of the highest in the world. The global average is about 0.4. A Gini Coefficient above 0.5 is thought to be a significant impediment to stable and sustainable growth. In the case of Vanuatu such an aggregated measure needs to be interpreted cautiously given that most people derive at least part of their livelihoods outside the cash economy. It does, however, mean that Port Vila based economic growth is unlikely to trickle down to much of Vanuatu's rural population. Growth derived from agriculture and in tourism based outside Vila will be far more broadly based and socially and economically sustainable.

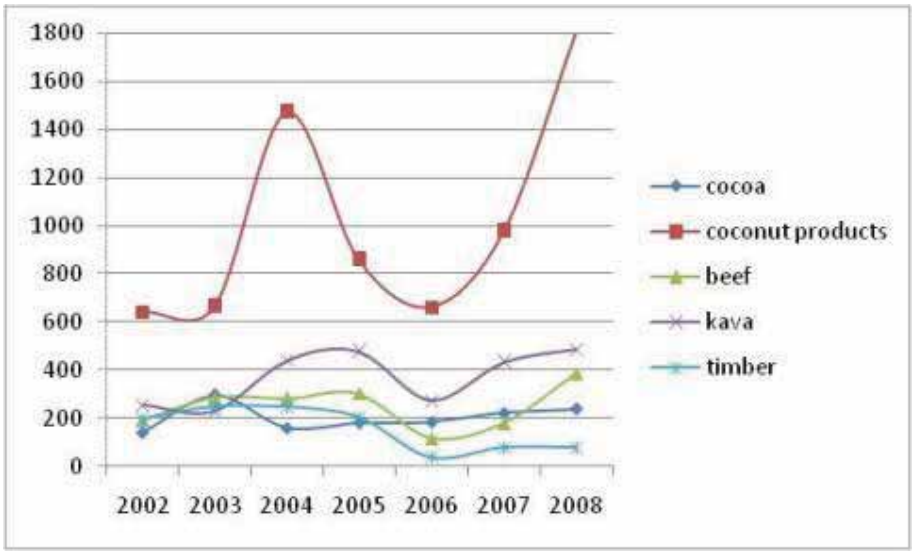
The excellent overall growth performance of the Vanuatu economy over the last few years has not been matched by the performance of commodity exports (table 3 and figure 1). There was

[2] The Gini Coefficient is a measure of income inequality; zero representing perfect income equality and 1 representing infinite income inequality

a large surge in the value of coconut product (copra and coconut oil) exports in 2007 and 2008 due the spike in coconut oil prices driven boom in petroleum prices, which have since significantly subsided.

Table 3: Vanuatu commodity exports 1998- 2008

Figure 1. The value of Vanuatu commodity exports, 2002-2008 (vatu millions)



If Vanuatu's excellent growth performance is to be more broadly based and sustainable it needs to contain a much larger small holder agricultural growth component. This study looks at a case study of organic cocoa to see how more broadly based and sustainable growth might be achieved by the development of commodity niche markets.

6 The Vanuatu Organic Cocoa Growers Association (VOCCA)

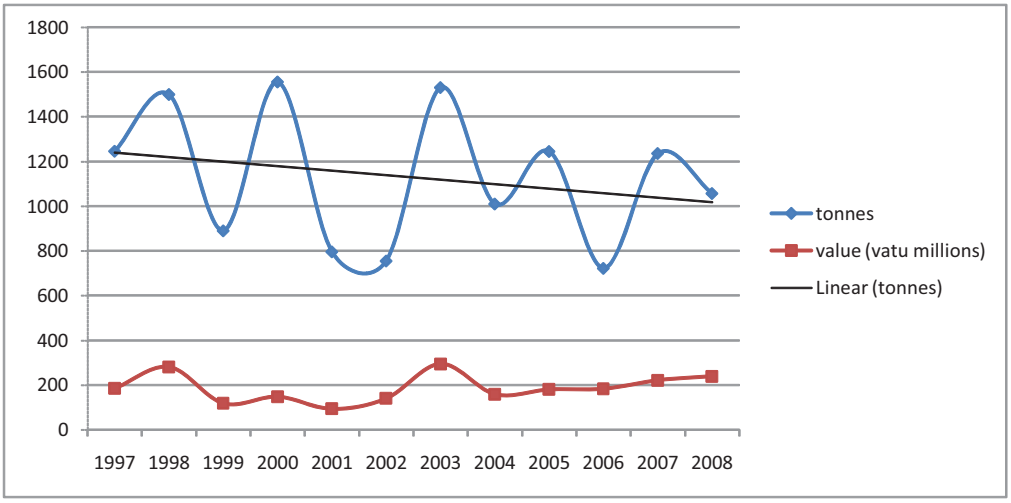
6.1 Cocoa in Vanuatu

Vanuatu and Samoa have the oldest cocoa industries in the South Pacific. The Vanuatu cocoa industry dates back to the late 19th century, where it was established as a plantation crop on Santo. The commodity enjoyed rapid growth early in the 20th century at the expense of coffee, which faced disease problems, higher labour costs, and low prices. Weightman reports that by 1921 over 2,700 ha were planted to cocoa and exports exceeded 1,000 tonnes (1989, p.203). The world price for cocoa reached an astronomical £135/tonne in 1921 only to collapse to £33/tonne in 1922. Production exceeded 2,500 tonnes by the mid 1920s, despite the fact that prices had fallen well below £20/tonne. The industry reached its peak at the beginning of the 1930s with some 4,500 ha planted. By 1935, cocoa production reached 2,700 tonnes from some 60 commercial plantations in operation. This is the highest production ever achieved by Vanuatu. Over the next 30 years, the cocoa industry faced continual decline in the face of labour shortages and the higher returns that copra offered plantations.

Over the last decade, Vanuatu's production has oscillated around 1,000 to 1,200 tonnes. Cocoa exports, as with copra and coconut oil, have shown a downward trend (table 4). In 2008, Vanuatu exported 1,058 tonnes of cocoa, for a fob value of 240 million vatu. This represented 6% of Vanuatu's total export earnings, lying behind coconut products, beef and kava.

Table 4. Vanuatu cocoa exports 1997 - 2008

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
tonnes	1247	1501	891	1557	797	756	1532	1011	1246	723	1237	1058
value (vatu millions)	185	281	119	149	95	141	295	160	181	184	222	240



The 1993 Agricultural Census data indicates that there were substantial plantings of cocoa. This has been confirmed by the preliminary findings of the 2007 Agricultural Census. There has also been substantial investment from the EU and French Government in cocoa processing and marketing cooperatives. While some of these cooperatives have been quite successful these efforts are yet to have an overall increase in cocoa production. Trends in quality are another major concern. A 2005 a Study by Landell Mills Development and Marketing of

Vanuatu Cocoa and Coconut Products laments the substantial decrease percentage of grade 1 cocoa being exported. The Report notes:

> The Grade 1 percentage in 2004 to only 17% from previous levels of around 60%. Small bean size caused by the dry year in 2004 is a contributing factor but poor fermentary and drying practices are more at fault, particularly with individual smallholders. Improving fermentary and drying practices must be priority, including appropriate demonstrations organised by the extension service (p. 9).

The encouragement of cocoa as a smallholder crop, began in the 1950s and by 1960, smallholder production had surpassed that of plantations. During the 1970s, cocoa was promoted as the major diversification crop for copra. The focus of this development was on the island of Malekula. Cocoa prices during the 1970s were very erratic, ranging from an average of 33,000 vatu /tonne in 1971 to 198,500 vatu in 1977. By the end of the decade, in response to the high prices, production exceeded 1,000 tonnes for the first time since 1945. The 1970s saw the move toward centralised smallholder cocoa processing, via co-operatives and the introduction of steel pipe driers to improve quality.

In the 1980s, there was a series of Australian Aid funded projects to promote smallholder cocoa development. These extension orientated projects emphasised improving the quality of Vanuatu cocoa. The Department of Agriculture was actively involved in the supply of improved planting material. According to the 1994 Agricultural Census, 45% of cocoa households had improved planting material sourced from the Department of Agriculture.

The planting of cocoa was encouraged to be part of food garden activities or to be planted under widely spaced coconuts. Wisely, smallholders were not encouraged to clear or fell bush to plant cocoa. To quote the Director of Agriculture at the time:

> The size of smallholder plantings should preferably be limited to the area a family needs for food gardening, as it will tend to be relative to the family labour resources which will be available to care for the immature cash crop. It is also generally a mistake to make cocoa planting a project apart from food gardening activities, as this commits and stretches the family to two separate bush clearing and gardening operations during the year, always at the expense of the cash crop if the demands are too great (Weightman 1989, p. 211).

The validity of this approach is confirmed by farm budgets that show cocoa at current yields is only viable if planted as part of a food garden or under established coconuts (Vanuatu Land Use Planning Project Cocoa Profile 1998). As a result of these efforts, cocoa production in 1990 exceeded 2,000 tonnes.

In 1991, cocoa was declared as a prescribed commodity under the Vanuatu Commodities Marketing Act. This meant that the Vanuatu Commodities Marketing Board (VCMB) assumed responsibility for cocoa marketing. The justification for this measure was quality improvement and obtaining a better return for producers (Nganga 1990). However, as a result of the decision to make cocoa a prescribed commodity, Vanuatu for more than two decades was unable to make the best of market opportunities and smallholders suffered in terms of prices received. This situation has changed in recent years with the retry of private sector into cocoa marketing.

Cocoa had experienced similar quality problems as copra. Weightman reports ‘cocoa of any quality not accepted on the beach by one trader was likely to be bought by the next trader that came along, and the good and the bad, including even unfermented and smoke dried beans, were mixed and sold as one lot’ (1989, p. 213). However by the 1980s, extension efforts had greatly improved the standard of processing and Weightman reported that the main problems of quality related to bean size.

Despite the depressed prices of the 1990s, Vanuatu smallholders still found cocoa to be profitable in terms of returns to labour, as long as the capital expenditure on expensive dryer materials was not made (Vanuatu Land Use Planning Project. 1998. Cocoa Profile).

6.2 Current Situation

6.2.1 Production and industry structure

The Vanuatu cocoa industry is concentrated in three provinces: Sanma, Penama and Malampa. The island of Malekula in Malampa Province is the main producing area, accounting for around 70% of total production (table 5).

Table 5. Vanuatu cocoa production: 1995-2004

Year	Torba	Sanma	Penama	Malampa	Shefa	Vanuatu	5 Year Average
1995	1	464	167	1148	6	1786	1561
1996	1	237	72	623	6	939	1477
1997	2	447	135	1180	2	1766	1599
1998	2	380	113	998	8	1501	1436
1999		138	59	692	2	891	1377
2000		294	164	1098	1	1557	1331
2001		155	101	539	1	797	1302
2002		168	115	584	1	868	1123
2003		281	193	871	1	1346	1092
2004		257	40	695	4	996	1113

Source: Annual Statistical Indicators, 2004.

According to the 1993 Agricultural Census, an estimated 34% of rural households harvested cocoa. These small holders accounted for some 80% of national production. According to the 2007 Agricultural Census, Vanuatu has 11,273 cocoa producers (table 6). According to the Census, over 47% of the cocoa trees are over 20 years old.

Table 6. Cocoa sub-holdings, by plants and by province

Province		Age of the cocoa tree (years)					
		Total	0 - 4	5 - 19	20 - 29	30 - 49	50 and over
VANUATU (rural sector)	Sub-holding	11,273	1,002	5,018	3,278	1,546	429
	Number of plants ('000)	3,042	250	1,123	1,077	465	127
TORBA	Sub-holding	32	0	18	7	7	0
	Number of plants ('000)	6	0	6	0	0	0
SANMA	Sub-holding	1,600	233	645	390	293	39
	Number of plants ('000)	395	78	152	84	70	10
PENAMA	Sub-holding	1,872	134	869	543	225	101
	Number of plants ('000)	422	26	173	142	54	27
MALAMPA	Sub-holding	7,370	597	3,342	2,172	980	280
	Number of plants ('000)	2,145	130	777	813	336	90
SHEFA	Sub-holding	394	39	140	166	40	8
	Number of plants ('000)	73	16	14	37	4	2
TAFEA	Sub-holding	5	0	5	0	0	0
	Number of plants ('000)	6	0	6	0	0	0

Source: Agriculture Census 2007, National Statistics Office, Vanuatu
Note: Data includes only those households that reported number and age of cocoa plants. Figures are based on preliminary tabulation and may be different in the final report.

Virtually all cocoa is produced in central Vanuatu, with around 70% coming from Malekula (table 7). According to the 1994 Agricultural Census, 82% of households on that island owned cocoa, with similar ownership rates being expressed for Malo and West Coast Santo (p. 51).

Table 7. Cocoa production by local government region, 1995

LGR	tonnes	LGR	tonnes
Banks/Torres	1	Paama	0
Santo/Malo	463	Epi	6
Ambae/Maewo	147	Shepherds	0
Pentecost	14	Efate	1
Malekula	1148	Tafea	0
Ambrym	6	TOTAL	1786

Source: Vanuatu Land Use Planning Project 1998

More recent attempts to establish large-scale plantation cocoa production have not been successful. The Metenesel Cocoa Project, in Northest Malekula commenced in 1983, as a joint venture between the Government of Vanuatu, the Commonwealth Development Corporation (CDC) and landowners. The target development was to plant 1,700 ha, producing 3,500 tonnes at full production. Only 500 ha were planted in the face of sustained low world prices, yields were well below projections and the project faced high overhead and management costs. The Vanuatu Government tried to continue management of the project after the withdrawal of CDC. However, with insufficient funds to meet minimum maintenance and operating costs, there was a rapid decline in production. PRV and the Vanuatu Co-operative Federation also maintain cocoa plantations on Malekula.

A summary of the smallholder structure of the cocoa industry is presented in table 8. This summary was derived from the 1984, 1994 and 2007 Agricultural Census.

Table 8. A summary of the structure of the Vanuatu cocoa industry

	1983	1993	2007
Number of households growing cocoa	2,537	7,414	
Number of smallholder plots of cocoa	3,905	12,414	11,273
% of rural households growing cocoa	12%	34%	
Average cocoa area per household	.7 ha	.4 ha	
Number of trees recorded in plots	1,297,988	3,343,700	3,042,000
% of cocoa households planting cocoa in the previous 12 months		24%	
Average number of cocoa seedlings planted		125	
% of area with trees < 2 yrs old	11%	6%	
% of area with trees aged 2 -4 years	17%	19%	
% of area with trees area 5 -11 years	40%	45%	
% of area with trees 12 years and over	32%	30%	
% of plots operated on a single household basis	87%	86%	
Average number of cocoa plots per holding	1.5	1.7	
Average number trees per plot	297	269	

The notable features derived from these census data are:

- The rapid expansion in smallholder cocoa over the 1983/1993 inter-inter-censual period, with an almost 300% increase in the number of households growing cocoa and over 300% increase in the number of cocoa plots. Based on the number of smallholder plots and cocoa trees there has, however, been some contraction over the period 1993 to 2007. This is despite considerable French and EU investment in the cocoa industry.

- A fall in the average size of cocoa plots, indicating an increasing integration of cocoa into food gardens.
- The predominance of trees in the most productive age category (5 to 11 years) and a tapering off in the percentage of new plantings.

6.2.2 The suitability of Vanuatu for organic cocoa production

Over 40% of the total land area in Vanuatu is suitable for cultivation, with good quality soils and ample rainfall.

6.2.3 Climate

Sewell and Lau (1993) in their Handbook for Cocoa in Vanuatu describe the optimum climatic conditions for good cocoa production. These are summarised below.

- Rainfall: cocoa requires rainfall of 1500 to 4000 mm per annum, with the rainfall in each month above 100 mm. If there are more than 3 consecutive months with rainfall less than 100mm, the area is not suitable for cocoa.
- Temperature: cocoa grows best where the temperature is between 22 C and 31 C
- Sunshine: cocoa requires 4.5 to 6.5 hours of sunshine per day for full production
- Altitude: cocoa can be successfully grown up to altitudes of 600 m
- Wind: cocoa cannot withstand strong steady winds or cyclones, but can recover quickly after being damaged by a cyclone. It is best to plant cocoa away from areas where there are steady winds and in areas that are relatively protected from cyclones.

These climatic conditions, with the exception of those pertaining to cyclones, are met in most of the main cocoa growing islands of Malekula and Santo/Malo, as well as in most other central and northern islands.

6.2.4 Soils

Cocoa needs soils that are at least 1 m deep, well drained, and a water table below 2 m. The soil must contain plenty of organic matter; have a good crumb structure, and a pH between 6.0 and 7.5. The topsoil should be at least 15 cm to 20 cm. Such soil conditions can be found throughout Vanuatu. Thus it is feasible to grow reasonable yielding cocoa in Vanuatu without the use of synthetic chemical fertilizer.

6.2.5 Pests and diseases

The main cocoa diseases in Vanuatu include black pod (*Phytophthora palmivora*), bark canker *(Phytophthora spp*), and rootrot (*Phellinus noxious*). Of these, black pod is the most serious. In the 1994 Agricultural Census, 94% of cocoa households reported black pod as a problem. Weightman noted that 'the control of black pod together with rats would probably double the amount of harvestable cocoa' (1989, p.214). These are common diseases throughout the cocoa growing world and can be reduced to acceptable levels through good management. As the Handbook for Cocoa in Vanuatu notes:

> Cocoa fungi like to live in places that are away from the sun and wind, and that are a bit dark and moist. The best way to control unwanted fungus in a cocoa garden then, is to make the cocoa garden the opposite to what the fungus likes. This means getting some sun into the trees and branches by shade control, by pruning the trees properly to let the light in and let the airflow through the garden to reduce the humidity and to dry it out so the fungus can't grow well (Sewell and Lau 1993.)

Commercial plantations often use chemical fungicides to help control black pod – most of these would not be acceptable for organic certification. However, black pod can largely be controlled by the sanitation measures described by Sewell and Lau above.

Rats are the main cocoa pest in Vanuatu and control has proven problematic. The 1994 Census indicated that 83% of cocoa households had a problem with rats. An estimated 10 to

20% of the crop is lost directly because of rats (Weightman 1989). In poorly maintained cocoa gardens, losses to rats can be as high as 90%. There are further indirect losses to cocoa, due to the increased incidence of black pod caused by rats. Damage can be substantially eliminated by good crop husbandry. Rats generally only attack ripe and almost ripe pods, thus regular harvesting will greatly reduce losses. As a measure of last resort, cheap, but effective rat poison can be used. Talon/warfarin baits have been commonly used even by small holders. Use of such rat poison is incompatible with organic certification.

Vanuatu is fortunate to not have the more serious pests and diseases found in other major cocoa growing areas. The cocoa pod borer *Conopomorha cramerella*, and vascular-streak die back caused by the systemic fungal disease *Oncobasidium theobromae* are absent from Vanuatu cocoa growing areas. These diseases are a major problem in PNG's main cocoa growing areas. Growing cocoa in these locations would be extremely difficult and probably not feasible.

Termites and rose beetle can also be a problem. However, good tree management should be able to reduce the problem to an acceptable level and be of insignificant concern to smallholder farmers.

6.2.6 The farmers and farming systems

Cocoa does not require the same back-breaking work as copra and provides a better return from effort than copra. It is well suited to work by a family unit. Once established, much of the labour input, such as the harvesting and cracking of pods, can be undertaken by women and children. Cocoa does not require the close attention and skill of horticultural crops like yams, or spice crops such as vanilla. However, it is far more demanding than copra, as Weightman describes for Vanuatu:

> Cocoa is not a flexitime, take it or leave it convenience crop like copra whose yield is regularly and evenly distributed to the ground where it can be left to lie at no loss for up to a month. Cocoa is more exacting; and far from lose nothing do nothing, inaction loses the lot. There needs to be a commitment to control rats, or at least a sense of urgency to beat them to the beans; but with few exceptions there is neither. It is a common sight to see trees loaded with ripe pods being eaten to bits by rats and nobody doing anything about it. The wastage is enormous; probably half the national crop. And the regular harvesting of diseased pods with good pruning would save a further few hundred tons. Harvesting of pods is not heavy or exacting work but it is timing that counts. Standards of processing can be improved through price incentives for better grades, but higher prices have not yet proved sufficient incentive to reduce the initial wastage of crop on the tree (1989, p. 215).

A major advantage that cocoa offers smallholders is that it can be integrated into a food garden or grown under mature coconuts. Following the planting of yams, cocoa seedlings can be planted along with taro, bananas, and other food crops. In the same garden it serves as an excellent companion crop to kava, offering shade to the young kava plants. Following 2 to 3 years of food production, a mixed cocoa kava block is left, with stand-alone cocoa remaining after the kava is harvested. Like copra, cocoa also has the advantage of always having a market, albeit in the past at relatively low returns. Through VOCGA the returns from cocoa have been greatly increased while still remaining a good component of the traditional farming systems.

6.3 The market for organic and single origin cocoa

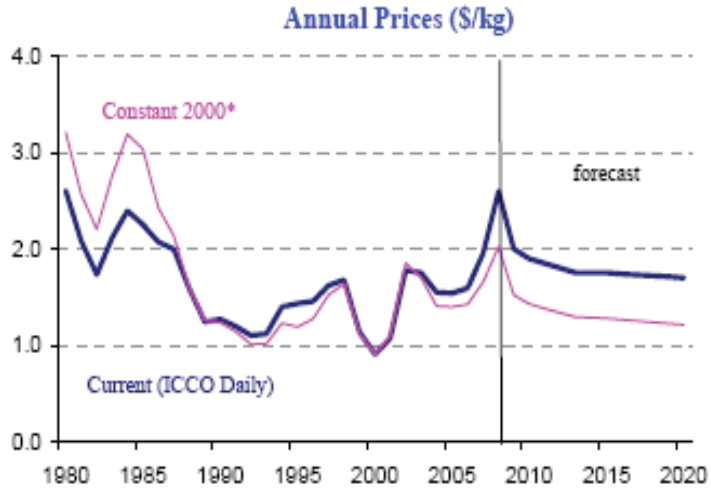
During two decades of monopoly cocoa marketing by the Vanuatu Commodity Marketing Board (VCMB) farmers were not able to take advantage of significant price premiums available for organic and single origin cocoa. It is only now that these markets have become a realistic prospect. The VOCGA case study looks at how a Pacific island enterprise has taken advantage of these opportunities.

6.3.1 Opportunities for Vanuatu and Pacific Island cocoa

Cocoa market trends

World cocoa prices are currently at their highest level in real terms for two decades (Figure 2). Market fundamentals have driven cocoa prices to relatively higher levels than most other commodities and have buffered the impact of the global recession. Ongoing political problems in Côte d'Ivoire (the world's largest cocoa exporter) have caused downward pressure on supply. Simultaneously, global demand has remained strong, with chocolate as an affordable small luxury proving to be recession-proof. This can be seen in the ICCO monthly average cocoa prices over the period January 2007 to October 2009 (Figure 3). Over the last 5 years, global cocoa demand has been growing at around 4 percent per annum. Over the period 2003/04 to 2006/07 there was only a 1.7 percent increase in world cocoa exports, compared to a 13.3 percent increase in cocoa imports. Consequently, there has been a world cocoa deficit over the last few years, with grindings (demand) exceeding production (Table 9).

Figure 2: World annual cocoa prices and forecasts



Deflated by global manufacture exports unit value index (in US$).
Source: World Bank.

Figure 3: ICCO monthly average cocoa prices (Jan 2007 to Oct 2009

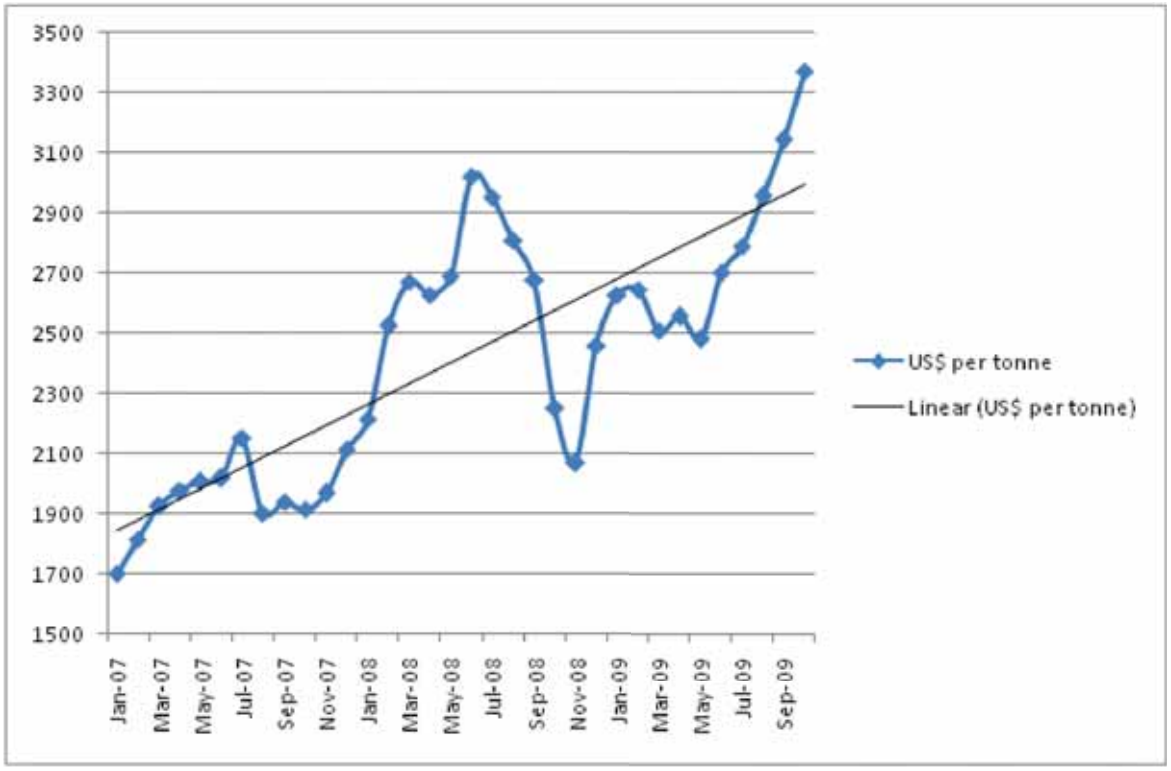


Table 9: Cocoa exports and imports

	2003/04	2004/05	2005/06	2006/07
NET EXPORTS (000 tonnes)				
Cote d'Ivoire	1,039	950	1,006	851
Ghana	612	548	570	620
Indonesia	314	361	493	416
Nigeria	155	186	190	166
Cameroon	136	165	146	140
Ecuador	86	81	89	99
PNG	39	47	51	47
Dominican Rep.	40	26	27	38
Solomon Islands	5	5	4	4
World	**2,515**	**2,495**	**2,740**	**2,559**
IMPORTS (000 tonnes)				
Netherlands	561	608	549	639
US	489	514	505	380
Germany	233	236	287	380
Belgium	140	182	190	195
France	155	153	157	164
UK	139	129	139	129
Singapore	67	64	70	83
Spain	67	72	76	83
Russian Fed.	64	68	70	65
Estonia	69	46	74	65
Turkey	71	57	65	49
Canada	73	65	77	48
World	**2,704**	**2,891**	**2,997**	**3,063**
WORLD COCOA SURPLUS/DEFICIT	**-189**	**-396**	**-257**	**-504**

Source: World Bank, Development Prospects Group, Nov 10, 2008

6.3.2 Cocoa value adding

There is little prospect for the Pacific islands to add value through the manufacture of cocoa products. The exception is the realistic opportunity for Samoa to significantly increase its exports of *koko Samoa* to Samoan communities abroad. However, there is considerable scope to increase cocoa export earnings through two basic routes:

- Exporting good quality, fermented cocoa beans
- Accessing some of the product differentiation techniques that are being practiced by other commodities.

6.3.3 Good Quality Fermented Cocoa

There is a large deficit of well fermented beans in the Asia/Pacific region. The region produces almost 700,000 tonnes of cocoa, of which less than 200,000 tonnes is fermented (ACIAR 2009). The balance is inferior, unfermented cocoa from Sulawesi, Indonesia. The Asia/Pacific region is also a major importer of cocoa beans (Table 10). Imports allow the region to grind around 650,000 tonnes of beans annually. Approximately 200,000 tonnes of fermented cocoa is imported from West Africa for blending with unfermented Sulawesi cocoa, in order to process products of reasonable quality.

Table 10: Asian importers of cocoa bean*: 2006

Country	Volume (tons)	Value (US$/ton)	Annual growth in import values 2002-2006 (%)
Malaysia	454,238	1,478	41
Japan	62,807	1,991	3
Singapore	77,834	1,464	16
China	41,111	1,520	47
Indonesia	26,819	1,608	1
Thailand	19,331	1,657	-3
Korea (Republic of)	5,806	1,825	2
India	6,233	1,694	n.a.

* Defined as HS 180100 cocoa beans, whole or broken, raw or roasted

Source: International Trade Centre (Geneva)

Under-fermented cocoa has little cocoa flavour and is very astringent and difficult to process. Most under-fermented beans are used for cocoa butter extraction or for low quality liquors that are blended in low percentages in chocolates of low quality. The price differential between under-fermented and well fermented cocoa is around US$ 250/tonne. Even if beans are well fermented, they will develop 'musty' flavours if they are not properly dried or if they are smoke contaminated. The change in flavour is the result of mould contamination inside the beans, due to bad drying or poor storage of cocoa that is already dry. Cocoa reabsorbs moisture from rain or high humidity.

Ni-Vanuatu cocoa growers, with their long tradition of fermentation are well placed to sell to secure markets at a premium price. In addition, there are niche market possibilities for single origin and organic cocoa. Good fermentation, adhering to high quality standards, is fundamental to accessing all these market options.

6.3.4 Differentiated product markets

Pacific island cocoa industries have the capacity to benefit from a number of product differentiation techniques that result in increased returns to producers. These identified products are:

- Single Origin Cocoa Markets
- Organic Markets
- Fair Trade Markets
- Good Agricultural Practice Markets

Single Origin Cocoa Markets

The concept of single origin is long established for products such as premium quality wines, Scottish whiskies and coffee. Single origin chocolates are now becoming an important part of the European and American markets, which are willing to pay premium prices for quality beans that meet the required specifications (Figure 4). Single origin chocolate is made from cocoa beans sourced from an identified geographic region. Chocolate connoisseurs argue that chocolate has varied tastes and such tastes depend upon where it is grown, how it is grown and the type of cocoa planted. The source location of single origin chocolate and cocoas is an important part of labelling and marketing. The actual marketing is often undertaken in conjunction with some of the other product differentiation techniques such as organic and Fair Trade certification (Figure 4). The French organic chocolate manufacture KAOKA, is expected to launch Vanuatu single origin chocolate in 2010. The certified organic cocoa beans will be supplied by VOCGA. KAOKA has been producing certified organic/single origin chocolate from Ecuador for a number of years. It is reported that it has been difficult to maintain the integrity of single origin cocoa from Africa (per. com Pierre Watas (CEO VOCGA).

Figure 4: South American single origin chocolate

Figure 5: French organic chocolate

Organic Markets

There is an opportunity to develop niche organic markets, capitalising on the increasing health concerns and environmental awareness of consumers. The market for organic cocoa has been growing at a rate of 10-15 percent annually.[3] There is a strong interest in organic cocoa in Europe, due to high pesticide residue levels found in some chocolates manufactured from

[3] Swiss Import Promotion Program (SIPPO) (2002). *Organic Coffee, Cocoa and Tea.* www.sippo.ch/files/publications/bio.kakao

African and South American beans.[4] Fair Trade cocoa that is certified organic can fetch an organic premium of US$ 200 per tonne. [5] At present, volumes of cocoa sold in organic markets are insignificant in comparison to cocoa sold in conventional markets. Around 15,000 tonnes of certified organic cocoa beans are marketed annually, representing less than 1 percent of total world cocoa production (3 million tonnes).[6] Germany is the largest importer, purchasing around 3,500-4,500 tonnes annually.

Within the Pacific region, only Vanuatu is now taking advantage of certified organic cocoa markets. In the past cocoa from Bougainville and Fiji was organically certified. The Vanuatu Organic Cocoa Growers Association (VOCGA) exports around 300 tonnes of organically certified cocoa beans annually to France. The buyer, KAOKA, is a premium organic chocolate under that brand name (Figure 5).

Pacific Island cocoa producers have a number of distinct advantages that should assist in the development of a certified organic cocoa sector. These include:

- A positive marketing image, based on a perception of relatively unpolluted and unspoilt environments
- Opportunities to utilise existing production systems
- High international demand for products that are technically feasible to produce organically
- A willingness from donors to provide technical assistance to support organic agriculture.

Vanuatu meets all of the above advantages.

Fair Trade

Fair Trade markets are somewhat similar to organic markets and they are often complementary. Organisations operating under Fair Trade principles are expected to:

- pay a price to producers that covers the costs of sustainable production and living, as well as pay a premium that producers can invest in development;
- partially pay in advance to pre-finance the purchase of inputs by producers; and,
- sign contracts that allow for long-term planning and sustainable production practices.[7]

Fair Trade cocoa prices are calculated on the basis of world market prices, plus Fair Trade premiums. According the ICCO, The Fair Trade premium for standard quality cocoa is US$150 per tonne.[8] For Fair Trade cocoa which is also certified organic, there is an additional organic premium of US$200 per tonne.[9] Beyond Fair Trade, there are other organisations that apply the principles of fair trading with organics. In reality, the performance of Fair Trade marketing has been disappointing. A real obstacle to the development of the Fair Trade niche marketing option for the Pacific islands has been the absence of Fair Trade certification standards and pricing standards. However, some progress is being made in that area. The SPC Facilitating Agricultural Commodity Trade (FACT) Project is looking to develop Fair Trade standards and guidelines for this region. These would be very helpful. In the meantime, it is recommended that Fair Trade not be a focus of niche marketing efforts for the Pacific islands cocoa industries.

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[4] ibid.

[5] op. cit. SIPPO (2002).

[6] ICCO 2007, *Organic Cocoa.* www.icco.org/questions/organic.htm

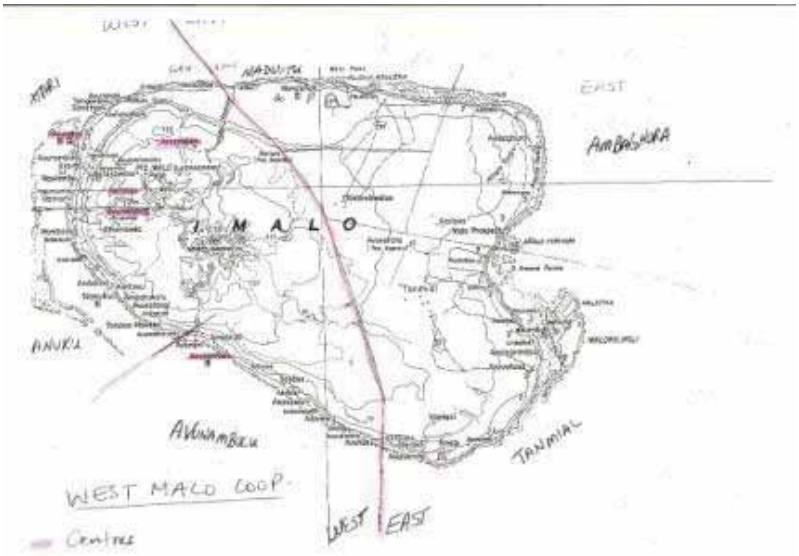
[7] Fair Trade Labelling Organizations International (FLO) (2004). *Fair Trade Standards in General.* www.fairtrade.net/sites/standards/general.html.

[8] ICCO (2004). *Fair Trade Cocoa and Chocolate.* www.icco.org/questions/fairtrade.htm

[9] op. cit. SIPPO (2002).

6.4 Who is the Vanuatu Organic Cocoa Growers Association (VOCGA)

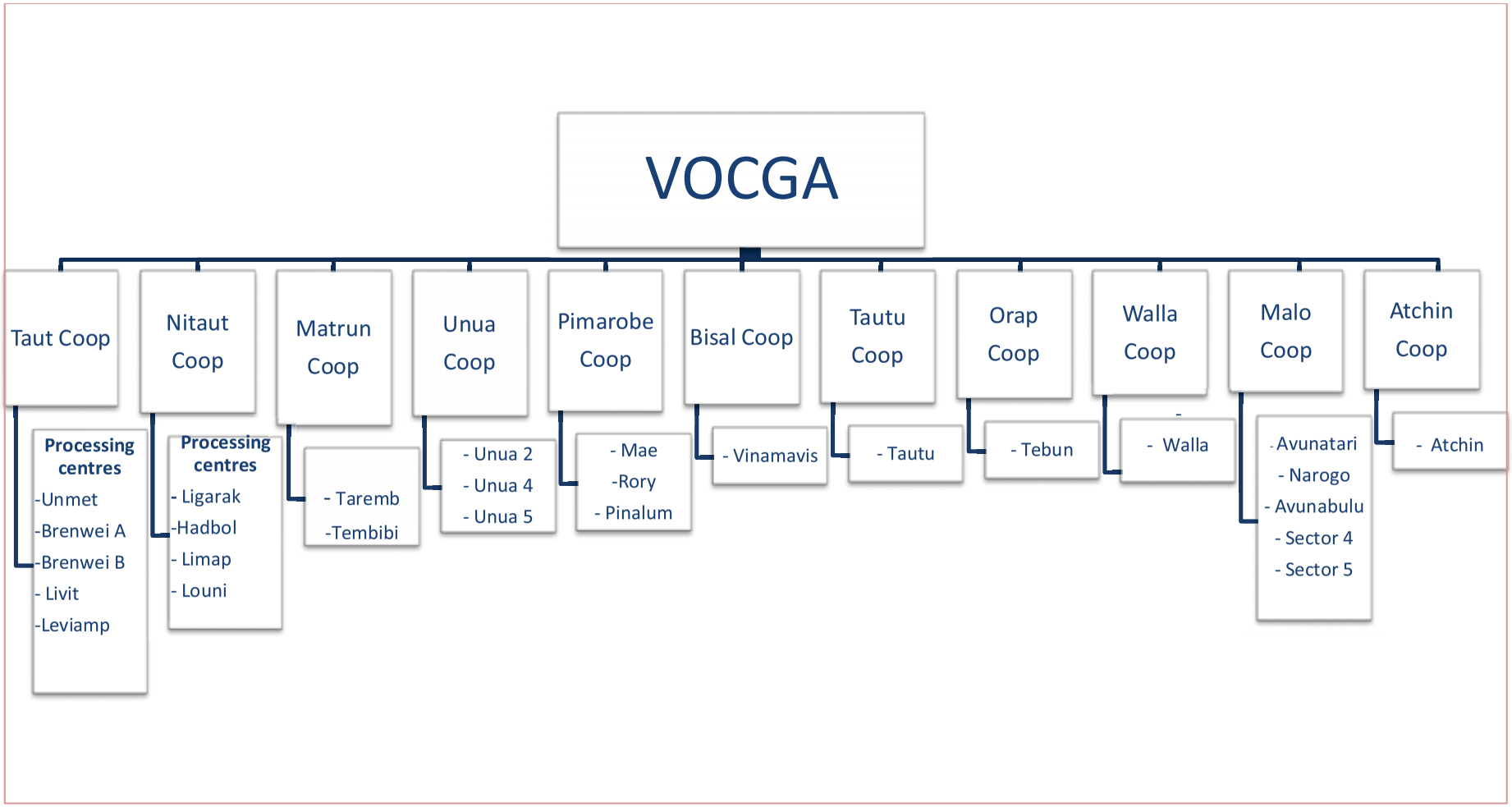
The genesis of VOCGA was a visit to Vanuatu in 1989 by Andre Deberdt the CEO of the French organic chocolate manufacturer KAOKA. At that time KAOKA were sourcing certified organic cocoa from Bougainville and visited Vanuatu at the invitation of the Vanuatu Department of Agriculture. After visiting the cocoa production areas of Atchin and Ligarak in northern east Malekula, Andre recognized the potential for sourcing certified organic and single origin cocoa from Vanuatu. Returning to France discussions were held with EcoCert, a major European organic certifying agency. A proposal was prepared to establish a producer organization project which would facilitate the development of a certified organic cocoa production base. The French government agreed to fund such a project - Producer Organization Project (POP1). POP1 was later expanded into larger EU funded project known a Projet d'Organisation des Producteurs Agricoles pour la Commercialisation Associative (POPACA). VOCGA was established in 2000, with POP1 facilitating and funding the initial EcoCert organic certification in 2002



VOCGA operates as an umbrella apex marketing cooperative under which there are ten primary cooperatives that supply organically certified dry cocoa beans. Each primary cooperative operates one or more centralized fermentaries. There is now 25 such processing facilities in the VOCGA network. Each processing center operates as a separate registered cooperative that has its own management committee. The structure of the VOCGA marketing network is shown in figure 6. The POP and POPACA projects supplied the initial processing infrastructure of driers, fermentaries and storage sheds. However, some of these units have been subsequently rehabilitated by VOCGA and in some cases expanded.

VOCGA now has a total of 1,205 members coming from 25 sectors or villages (20 on Malekula and 5 from Malo). The distribution of the members amongst the 25 sectors is presented in table 11.

Figure 6: The Structure of VOCGA Organic Cocoa Marketing Network



VOCGA commenced exporting certified organic cocoa to France in 2006 with 417 tonnes shipped. In 2007, 327 tonnes were shipped and 200 tonnes in 2008. The export forecast for 2009 is 312 tonnes.

Table 11: VOCGA membership and production

Cooperative	Area/village	Members	Trees	dried bean production		
TAUT COOP				**2006**	**2007**	**2008**
SECTOR 1	UNMET	53	30,903	41,600	33,894	35,154
SECTOR 2	BRENWEI A	69	37,000	28,287	22,987	13,090
SECTOR 3	BRENWEI B	25	10,324	14,490	7,560	6,615
SECTOR 4	LIVIT	46	33,816	21,798	11,781	9,261
SECTOR 5	LEVIAMP	70	120,678	28,791	22,491	13,356
NITAUT COOP						
SECTOR 1	LIGARAK	77	121,459	40,509	30,681	30,167
SECTOR 2	HADBOL	38	83,558	26,523	17,897	10,206
SECTOR 3	LIMAP	40	66,601	19,098	23,247	9,450
MATRUN COOP						
SECTOR 1	TAREMB	29	63,920	29,358	21,042	13,545
SECTOR2	TEMBIBI	36	61,633	37,926	27,342	15,009
UNUA COOP						
SECTOR 1	UNUA	17	14,748	0	0	8,316
SECTOR 2	NERAMB	44	67,877	24,381	19,845	17,892
PIMAROBE COOP						
SECTOR 1	MAE	63	41,895	13,167	14,742	6,489
SECTOR 2	RORY	60	29,640	0	14,742	12,474
BISAM COOP						
SECTOR 1	VINAMAVIS	53	30,903	14,175	10,836	66,78
TAUTU COOP						
SECTOR 1	TAUTU	68	24,561	0	5,418	315
PINALUM COOP						
SECTOR 1	ORAP	61	40,530	21,523	11,987	10,206
YENMAR COOP						
SECTOR 1	UNUA	22	15,090	14,554	21,042	11,098
SECTOR 2	NERAM	32	61,633	37,926	11,876	8,453
MALO COOP						
SECTOR 1	AVUNATARI	31	83,558	26,523	23,562	6,963
SECTOR 2	NAROGO	41	66,601	15,563	7,098	9,450
SECTOR 3	AVUNABULU	35	61,633	13,931	11,000	11,980
SECTOR 4	AVUNALELEO	31	83,558	4,990	6,677	9,022
SECTOR 5	AVUNARANI	32	15,090	5,778	3,551	11,101
ATCHIN COOP						
SECTOR 1	ATCHIN	132	72,600	10,536	16,432	10,206
TOTAL		**1205**	**1,339,809**	**491,427**	**397,730**	**289,818**

6.5 How the VOCGA marketing network operates

Each primary processing cooperative has a formal contract with VOCGA to supply certified organic dried beans in accordance with a pricing formula and grading standards.

6.5.1 The VOCGA apex

Exporting organically certified cocoa to KAOKA

VOCGA arranges the shipment of organically certified cocoa beans to the chocolate manufacturing company KAOKA headquartered at Le Pontet France. Some 90% of VOCGA cocoa is produced on Malekula, from where it is transhipped to the Luganville international port on Santo.

Buying dried beans from the primary processing cooperatives

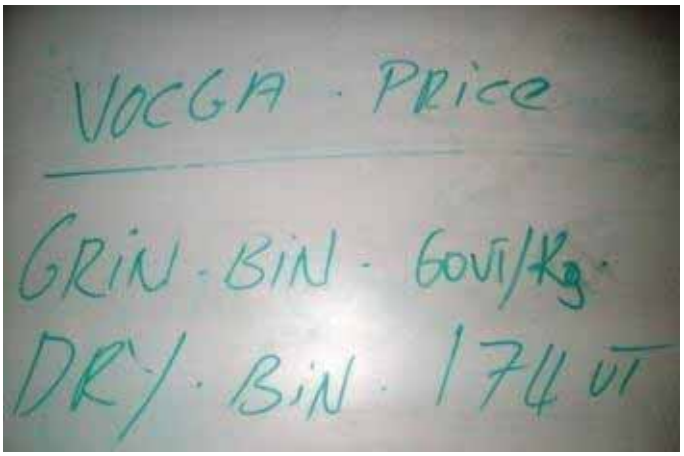
VOCGA buys dried beans packed in ready to export (63.5 kgs gross weight) bags from the primary processing cooperatives. VOCGA provides transport from the processing centres to the storage facilities points at Luganville (Santo) and Lakatora (Malekula).

Prices and marketing margins

A contractual formula linked to world market price for cocoa (NY ICCO price) is used to determine the dried bean price paid to the primary processing cooperatives. The formula allows for a minimum fob price of 201 vatu/kg, should the world market price fall below USD 1,700/kg. The formula results in a significant fob price premium.[10]

In determining the dry bean price paid to the processing cooperatives, deductions are made to cover VOCGA costs and KAOKA's Vanuatu cost, together with the VCMB levy. KAOKA pays VOCGA within 3 days of receiving the documents in France. VOCGA in turn pays the processing cooperatives within 24 hours of delivery and grading.

VOCGA operates on modest marketing margins for which it provides high quality market services. In October 2009 with the average world cocoa price for the month at US$ 3142/tonne VOCGA growers were receiving a dried bean price of 174vatu/kg (increasing to 184 vatu/kg from Nov 20th 2009. The dried bean price paid by the Cocoa Growers Association (CGA) for conventional cocoa at the time was 120 vatu/kg price. VOCGA primary processing cooperatives receive around 75% of the fob price. VOCGA's marketing margin includes a compulsory levy of 6% of the fob price paid to the VCMB – which is little more an export tax. In return for this marketing margin the VOCGA farmers receive quality marketing services. These marketing services include:



- Transportation from the fermentaries to the storage facilities (two trucks are maintained on Malekula for this purpose).

[10] For example according to Reserve Bank of Vanuatu statistics the average fob price received for Vanuatu in 2007 was 181,041 vatu/tonne, compared with the estimated VOCGA fob price of 218,000/tonne.

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- Good quality storage facilities that incorporate organic insect storage pest control in the form of pheromone traps[11].
- Supplies all the central fermentaries with durable UV clear plastic to enable more efficient sun drying.
- The fermentaries are also provided with pheromone traps for the organic control of weevils. The UV plastic and pheromone traps are sourced in France by KAOKA and supplied to VOCGA at no cost.
- The cost of VOCGA assistant manager and support staff (a mechanic on Malekula and office assistant in Santo)

Figure 7: Organic pheromone traps for control of cocoa storage pests

KAOKA meets the cost of:

- overhead cost of the VOCGA CEO Pierre Chanel Watas,[12].
- the ongoing cost of organic certification and compliance.

The marketing services provided by VOCGA contrasts markedly to the situation when the VCMB monopoly was responsible for cocoa marketing. Landell Mills (2005) described the marketing performance of the VCMB:

> Margins charged by the VCMB were necessarily high to recoup the high costs of inefficient operations. Even with its monopoly, the VCMB lost large amounts of money and therefore did not have the resources, much less the incentive, to maintain service standards. Poor handling and storage resulted in lost quality and further reducing returns to growers (p. 34).

Enforcing grading standards

The cocoa supplied to KAOKA must not only be organically certified it must also be of high quality. Strict grading standards are applied by VOCGA, which must be met by the processing cooperatives. These standards (applied to a 100 bean sample cut test taken from a bag sampled from each consignment) are as follows:

- The beans must not exceed 7% moisture content
- Slaty bean must not exceed 2% by count (cocoa beans which are dried without being fermented have a characteristic slaty colour. According to Wood and Lass slaty beans have none of the precursors of chocolate flavour and chocolate made from them has a bitter, astringent and unpleasant taste p, 509. The normal Grade 1 standard for slaty bean in not to exceed a maximum of 3 %.)
- Purple beans must not exceed 7%. Purple beans are an indication of under-fermentation.

[11] The pheromone *Ephestia plodia* attracts male weevils, who get stuck in sticky Jackson traps and cannot mate. The removal of the males that the females do lay eggs in cocoa. This system of weevil control is approved by EcoCert the organic certifier.

[12] Pierre is a highly qualified and experience cocoa person who was with the Vanuatu Agricultural Research and Training Centre (VARTC) for 10 years before joining the POPACA Project Pierre has agronomy degree in Noumea and a master's degree from France and additional study in Portugal and Australia (UQ Rockhampton). Pierre was also working for 12 years in VARTC before he took the position of manager of the VOCGA

- Mouldy beans must not exceed 2%. The normal Grade 1 standard for mouldy beans is not to exceed a maximum of 3% (Wood and Lass p, 602).
- Defective beans (flat, broken, joined) must not exceed 3%.
- No impurities
- No contamination by insects.
- No odours of flavours (no smoke contamination)
- No traces of banned substances by the organic certification regulations.

6.5.2 The primary processing cooperatives

The processing of cocoa to the high standards demanded by KAOKA/VOCGA

To achieve the high quality standards demanded by KAOKA, VOCGA requires the processing cooperatives to strictly adhere to a series of processing steps and to maintain their facilities in good order. A key factor in reaching and maintaining quality standards is that VOCGA CEO, or the assistant manager, visits each processing facility once a week.

These steps taken are:

7 days of fermentation in a fermentation boxes covered by banana leaves[13]. A critical part of post-harvest handling is the fermentation. Fermentation is a natural process that occurs with the action of naturally occurring microbes on the cocoa pulp and is responsible for the formation of the compounds critical for the chocolate flavour. Without well performed fermentation, there will be no chocolate flavour in the cocoa beans. The use of banana leaves helps accelerate the fermentation process. The use of sacks is to retain the heat.	
Turning every 2 days. The purpose of turning is to ensure uniformity; without air the sugar turns to alcohol. If after 2 days the cocoa is not stirred the alcohol becomes acidic, which leads to bad taste. After 2 days the beans are still light in colour because the bean is still living. After three days the PH is lower and the temperature increases slowly because the chemical reaction produces heat. This reaction kills the germination power of the bean. The cell structure of the beans break down and they now have a chestnut appearance as they are oxidised.	

[13] Dr Smilja Lambert, Cocoa Sustainability Research Manager Asia-Pacific, Mars Inc, suggests that 7 days fermentation, particularly when associated with slower sun drying could be too long with the risk of over fermentation (ACIAR 2009).

Three days of sun-drying. Drying is a very important part of the cocoa post-harvest process. It reduces the moisture content to 7%, which enables stable storage of the product. The majority of browning reactions occur during this phase of the post-harvest process. In the browning reaction, the purple cocoa polyphenols will get oxidized, producing complex tannins that turn the bean to a typical chocolate brown colour. During this process, bitterness and astringency are also greatly reduced. However, if drying is not properly performed many very important defects can occur that will spoil the quality and impose price discounts. Sun drying results in better flavour than artificial drying and is reflected in lower levels of acetic acid (Wood and Lass p, 472).	
One day of drying in a "Samoan" kiln drier at low temperature. This is to ensure that the beans get to the required 7% moisture level. Smoke contamination has been a major quality problem for Vanuatu cocoa, resulting in significant price discounts. However, this has not been a problem for VOCGA. The kiln dryers observed are well-maintained kiln pipes and high chimneys that will not cause any smoke contamination. The VOCGA driers are well insulated from smoke with the external lining made of large jute bags impregnated with the cement water that hardens and does not let smoke pass. These driers contrast markedly with the old 44 gallon drums often used in copra and cocoa driers by Pacific island farmers.	

Bean selection. After drying flat, broken, joined, germinated beans, fragments and foreign matter is selected out.	
Bagging the dried cocoa ready for exports After bean selection the dried cocoa is bagged into 63.5 kg, ready to export, bags (which allow for 0.5 kgs for shrinkage). These are polypropylene bags supplied by KAOKA and distributed by VOCGA at no charge to the cooperatives. These polypropylene bags are a departure from the international norm of hessian bags for the export cocoa. The bags are collected by VOCGA and taken to the storage facilities at Lakatora and Santo.	

An evaluation of the dry bean quality

The conclusion of Dr Smilja Lambert, Cocoa Sustainability Research Manager Asia-Pacific, Mars Inc, who observed VOCGA dried bean in January 2009 was that “the process resulted in quality cocoa of good flavour” (ACIAR 2009). Dr Lambert noted that “the final drying to 7% moisture is performed on kiln dryers with well-maintained kiln pipes that will not cause any smoke contamination. Additionally, the drying is well insulated from smoke with the external lining made of large jute bags impregnated with the cement water that hardens and does not let smoke pass.”

KAOKA, after four years of importing VOCGA certified organic cocoa, is now sufficiently confident of the quality and supply consistency to launch a Vanuatu single origin chocolate. This result is a far cry from the inferior quality usually associated with Vanuatu cocoa.

Buying wet beans from the farmers

Figure 8. Removing wet beans from fully ripe pods

Figure 9. Wet beans being sold at the Unamet Cooperative

The 25 central processing facilities purchase wet beans for the 1,205 individual VOCGA shareholder members. Wet beans are delivered to the central cooperative processing facilities were the weights are recorded. According to the VOCGA specifications only beans from fully mature pods are processed. Satisfactory fermentation is not possible for beans from immature green pods. Over mature pods contain germinated beans, which are regarded as a defect[14]. Initially there was high incidence of under mature and over mature beans delivered to the buying points. However such beans are now rare, thanks to an intensive extension effort on the part of the VOCGA Manager and strict enforcement of the quality standards. To meet organic specifications the wet beans must be transported in black plastic supplied by VOCGA or in used rice or flour bags (used fertiliser or cement bags are prohibited).

There are usually two designated buying days a week during the main season and one buying day a week during the lesser production period. Same day payments are made to the suppliers of the wet beans.

VOCGA sets a maximum wet bean purchase price. For example in October 2009, when the dry bean price was set at 174 vatu/kg, the maximum wet bean price was set at 60 vatu/kg. This compared with 40 to 50 vatu/kg paid by CGA to their suppliers of non organic cocoa.

Individual cooperatives are at liberty to set a lower wet bean buying price for their members. The reduction below the maximum wet bean price cannot be more than 5vatu/kg, must be to increase retained earnings for investment purposes, and required approval of general meeting of the cooperative.

Operating and maintaining the processing facilities

The VOCGA dry bean buying price of 172 vatu/kg is equivalent to a wet bean price of around 69 vatu. - at a 40% wet bean to dry bean recovery rate. Thus the primary cooperatives operate on a marketing margin of around 9 vatu/kg (13%) wet bean purchased. The operating costs of the primary cooperatives are largely payments for members labour. These also vary between

[14] The hole left by the emerging radicle provides easy access for insects and moulds (Wood and Lass p, 512). Such beans are said lack good chocolate flavour

cooperatives. The following rates applied in October 2009 for the Unmet Cooperative in Northwest Malekula:

- Fireman (responsible for both sun drying and kiln drying phase) – 500vatu/63.5 bag dried beans
- Branch manager – 50vatu/bag (depending on production)
- Casual labourer used in wet bean buying operation - 2 to 3% of wet bean price per kg of wet bean purchased (depending on production)
- Treasurer - 200vatu/month
- Secretary – 2vatu/kg dried beans.

Unmet is one of the larger cooperatives, processing 35 to 40 tonnes of dried beans annually.

Figure 10. Well maintained processing facilities at the Unamet Cooperative

The cooperatives are also responsible for maintaining the processing facilities. A high level of maintenance was observed at the Malekula facilities that were visited. The standard was generally not as good for the Malo facilities. Good quality steel kiln pipes were originally supplied by the POP and POPACA Projects. These remain in good condition, although these have to eventually be replaced. The main ongoing maintenance is in the repair of the sun drying platforms. The cost of the UV resistant plastic is met by KAOKA.

Some of the more successful cooperatives have been able to expand their operation using their own retained earnings. For example Unmet Cooperative in Northwest Malekula recently invested in 3 new kiln driers and expanded storage at a cost of 650,000 vatu. This cooperative also purchased land in Lakatora (reported cost of nearly 1.3 million vatu). These investments have been financed from an annual throughput of 35 to 40 tonnes. For its first year of operation the Unmet Cooperative agreed to pay 5 vatu/kg less for wet beans to help finance these investments.

Cocoa growing by the cooperative members

The 1205 VOCGA shareholders are village based small holders. The average number of cocoa trees per shareholders is 1,100 trees, which represents about 1ha of cocoa depending on spacing. This cocoa is either planted under coconuts or introduced as part of a traditional food garden. The planting under coconuts tend to be somewhat larger (around 2000 trees on 2ha), with cocoa plantings in gardens small (around 500 trees). VOCGA farmers have no cash expenditure in producing wet beans. The branch managers are responsible for collecting seeds and propagating seedlings for cooperative members. VOCGA supplies the seedling in poly bags at no charge. No fertiliser or chemical are used on these farms. Apart from bush knives and harvesting hooks household labour represents the only input.

Planting cocoa under coconuts

The 1994 Agricultural Census reports that 85% of households were inter-planting cocoa with coconuts (p, 53). The popularity of planting cocoa with coconuts can be explained by the better utilisation of land that is usually in close proximity

Figure 11 Planting cocoa under coconuts

to the village. A good percentage of VOCGA shareholders fall into this category.

The return to a typical VOCGA shareholding house hold from growing cocoa under coconuts is examined in table 12. The average gross margin from cocoa from the 2ha was 151,000 vatu and yielded an average return per person day of effort of approximately 2,537 vatu from an annual average labour input of 59 person days.

Table 12: A VOCGA farmer growing cocoa under coconuts (2000 trees on 2 ha).

Year	1	2	3	4	5	6	7	8	9	10	Total
Yield/ha(wet bean kgs)	0	0	625	1050	1875	1875	1875	1875	1875	1875	
Production			1250	2100	3,750	3,750	3,750	3,750	3,750	3,750	
Sales (60 vat/kg wet bean)			75,000	81,900	225,000	225,000	225,000	225,000	225,000	225,000	1,506,900
Cash expenditure	0	0	0	0	0	0	0	0	0	0	0
Net revenue	0	0	75,000	81,900	225,000	225,000	225,000	225,000	225,000	225,000	1,506,900
Family labour (person days)											
Cutting and lining	20										
Digging holes	20										
Weeding	5	30	10	5	5	5	5	5	5	5	
Pruning		2	9	14	14	14	14	14	14	14	
Picking and cracking			18	29	53	53	53	53	53	53	
Sub-total	45	32	37	48	72	72	72	72	72	72	594
Average labour/annum				59							
Average annual gross margin for 2ha (vatu)				150,690							
Average return for family day of labour (vatu)				2,537							

Prior to the formation of VOCGA this same farmer would have produced dried beans using his own drier and then taken these to Santo for sale to the VCMB. The VCMB did not operate a buying point on Malekula. The returns for such a farmer are modelled in table 13. The farmer had significant cash expenditure in the form of purchasing seedlings, material for a drier, bags, rat bait and transporting. The labour input requirements are greater as the farmer needs to ferment and dry the cocoa and spend time in marketing (an average of 68 days per year compared with only 59 days for the VOCGA member). The revenue earned by the farmer is considerably less (an average annual gross margin on 75,300 vatu, compared vatu 151,000 for the VOCGA member, modelled in table 12). The result is that VOCGA members earn around 2,500 vatu per day of household labour effort, compared with 1,100 vatu per day when farmer produced their own dry beans and sold to the VCMB. These improved cocoa marketing arrangements means a more than doubling of the return to village small holders.

Table 13: Pre-VOCGA situation - planting cocoa under 2ha of coconuts, building recommended drier, and taking dried beans to Santo for sale

Year	1	2	3	4	5	6	7	8	9	10	Total
Yield/ha (kgs dried beans)	0	0	250	420	580	750	750	750	750	750	
Production	0	0	500	840	1160	1500	1500	1500	1500	1500	10,000
Sales (av 120 vatu/kg)	-	-	60,000	100,800	139,200	180,000	180,000	180,000	180,000	180,000	1,200,000
Cash expenditure	49,350	130,000	16,406	24,043	36,583	38,219	38,219	38,219	38,219	38,219	447,477
Seedlings (40 vatu each 7vatu transport)	49350										49,350
dier material (fiber, cocoa wire and iron)		130000									130,000
bags (100 vatu each)			806	1,355	1,871	2,419	2,419	2,419	2,419	2,419	16,127
transport of beans to beach ([illegible])			1,600	2,688	3,712	4,800	4,800	4,800	4,800	4,800	32,000
transport of beans to Santo ([illegible])			13,000	17,000	28,000	28,000	28,000	28,000	28,000	28,000	198,000
rat bait			1,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	22,000
Net revenue	-49,350	-130,000	43,594	76,757	102,617	141,781	141,781	141,781	141,781	141,781	752,523
Family labour (person days)											
Cutting and lining	20										
Digging holes	20										
Weeding	5	30	10	5	5	5	5	5	5	5	
Pruning		2	9	14	14	14	14	14	14	14	
Picking and cracking			18	29	53	53	53	53	53	53	
Building drier and carting materials		15									
Fermenting and drying			3	5	7	9	9	9	9	9	
Marketing				0.5	0.5	1	1	1	1	1	
Sub-total	45	47	40	53.5	79.5	82	82	82	82	82	675
Average labour/annum			68								
Average annual gross margin from 2ha (vatu)			75,252								
Average return per family day of labour (vatu)			1,115								

Planting cocoa in a food garden

The alternative way for ni-Vanuatu small holder to grow cocoa is to plant it as part of a food garden. A major labour cost element associated with planting stand-alone cocoa, or cocoa under coconuts, is the clearing of bush and the initial clearing of young cocoa prior to the establishment of the canopy. Thus it is not surprising that small-holder cocoa is often planted in association with a food garden – usually prior to harvesting the initial yam crop. Thus clearing and much of the initial weeding can be attributed to the food crops, as this work would have to be undertaken anyway.

Figure 12, Cocoa seedlings planted in a yam garden prior to harvesting

A typical farmer might plant 300 cocoa seedlings in a 2,000 square metre yam garden (the national average of 269 trees per plot is reported in the 1994 Census). The cocoa seedling would typically be planted in June/July prior to the harvesting of the yams in August/Sept (year 1) (Figure 12). Cocoa plantings are typically accompanied by dry land taro, Fiji taro, island cabbage, banana, pawpaw, sugar cane, and kava as the second cash crop (year 2). In year 3 a mixed cash crop garden of cocoa and kava remains, with banana and papaya providing shade. The kava is harvested in year 4, leaving a stand-alone cocoa block. The clearing of forest and weeding for the first two years is not attributed to cocoa. This cocoa farming system is modelled in table 15. This low input low output cocoa production system generates nearly 1,800 vatu per person day of effort.

Table 14: A VOCGA farmer growing cocoa in three successive 2,000 m^2 yam garden

Year	1	2	3	4	5	6	7	8	9	10	Total
Number of trees	300	600	900	900	900	900	900	900	900	900	
yield/tree (wet beans)	0	0	0	0	0	1	1	1	1	2	
production	0	0	0	113	225	450	900	1,125	1,260	1,350	5,423
Sales @ 60 vatu/kg	0	0	0	6,750	13,500	27,000	54,000	67,500	75,600	81,000	325,350
Cash expenditure	0	0	0	0	0	0	0	0	0	0	0
Net Revenue	-	-	-	6,750	13,500	27,000	54,000	67,500	75,600	81,000	325,350
Family labour (person days)											
Clearing attributed to the garden	0	0	0	0	0	0	0	0	0	0	0
weeding attributed to the cocoa				2	4	6	3	3	3	3	24
Digging holes	4	4	4								12
Shade management			5	7	7	3	3	3	3	3	34
Pruning				1	5	5	5	5	5	5	31
Picking and cracking				2	3	6	13	16	19	22	81
Sub-total	4	4	9	12	19	20	24	27	30	33	182
Average labour/annum (person days)			18.2								
Average annual gross margin per area (.6 ha), vatu			32,535								
Average return per family day of labour vatu			1,788								

Prior to the formation of VOCGA this farmer would have produced dried beans. A typical small drier would be made from bush materials with a used 44 gallon drum, and make maximum use of the sun, was used (Fig 12). The dried cocoa beans would be sold to a trader on the coast. It takes some 2 hours to carry the dried beans to the point of sale. Thus cartage represents a substantial labour input. It is assumed, regardless of quality, that the grade 3 price is received. This situation is modelled in table 14. The 900 cocoa trees planted as part of food over 3 years yields the household an estimated average of 12,700 vatu annually over a ten year period. This requires an average annual labour input of about 23 days, giving a return per day of 544 vatu. In comparison the current VOCGA shareholder planting cocoa in a yam garden and selling wet beans to central processing facility is able to more than triple this amount for his effort.

Figure 13. Small dual drier made from bush materials

Through the improved marketing provided by VOCGA the participating small farmers have been able to substantially increase their income. The improvements in marketing have been in a number of areas, including:

- the abolition of the inefficient VCMB monopoly;
- the access to high value niche market through the involvement of KAOKA;
- the enforcement of strict quality standards by VOCGA; and,
- the competent management of VOCGA

There remains considerable scope to further improve farmer returns by increasing their productivity. Yields remain low – around 500 kg/ha. These could be significantly improved through better management – particularly in the areas of pruning and sanitation.

There is currently no extension support provided through the Department of Agriculture. VOCGA is now meeting some of these extension needs. At each processing centre, demonstration plots have been established to encourage better management of cocoa. The VOCGA CEO explains that in the past, the Ministry of Agriculture and VARTC assisted through the provision of planting material and instruction on how to plant. VOCGA currently has nurseries set up on Malekula to supply members with seedlings (Figure 14).

Figure 14. A VOCGA seedling nursery at Unamet Cooperative

Training on good cocoa production management practices is severely lacking in Vanuatu. Pierre Watas indicated that they find it difficult to encourage farmers to prune their cocoa trees. He sees that there is a poor understanding of the relationship between good farm management and higher cocoa production and income. This is a common problem amongst small holder cocoa producers throughout the Pacific islands (ACIAR 2009). Demonstration sites of best farming practices, as in the PNG project ACIAR ASEM/2003/015, would be a useful tool in assisting farmers to realise the long term benefits of good farming practices. The VOCGA

Manager has expressed particular interest in participation in a similar ACIAR project proposed for Vanuatu, Solomon Islands, Fiji and Samoa (ACIAR 2009).

Crop losses due to rats are particularly problematic for organic cocoa growers. With the use of chemical pesticides prohibited, rat control is currently limited to yeast and sugar bait. However, this system is not particularly successful.[15] In Indonesia, bio pesticides are being manufactured using the microbes from python guts. Biological control in the form of placing nesting boxes to encourage barn owls have met with some success in Malaysia (Wood and Fee 2003).

VOCGA has plans to establish its own demonstration farm by leasing land from the Mapest Plantation (owned by the Vanuatu Cooperative Federation) in North East Malekula. This will involve a new production area of 100ha. A valuable timber species (whitewood - *Endospermum medullosum*) will be used as shade tree (15 to 20 m spacing) instead of coconuts. This decision is based on the value of the whitewood timber – harvested at 15 to 20 years) and as measure to reduce the impact of rats. Coconuts have been identified as a major factor in attracting rats.

6.5.3 Organic certification

The VOCGA network is producing high quality cocoa that is organically certified. Small holder cocoa production in Vanuatu has always essentially been organic in the sense that chemicals and fertilisers are not used. Thus becoming organic cocoa producers required no change in production practices. However, a few cooperatives were discovered using herbicides and were expelled from VOCGA.

The major challenge for organic certification is in the auditing and compliance of some 1,200 small farmers and 25 primary processing cooperatives. KAOKA and VOCGA enter into a contractual agreement that requires VOCGA and its member cooperatives to strictly adhere to the organic standards (Bio Equitable) of the certifying agency ECOCERT. These standards are in conformity to EU and US organic regulations. In addition VOCGA and its cooperative members must agree to comply with labor laws, child labor, protection of the landscape, soil and biodiversity and to accept supervision by ECOCERT.

VOCGA must agree to accept the supervision of ECOCERT and is re-certified on an annual basis. The certifiers based in the Philippines undertake extensive sight visits over a 2 week period. These costs are now fully met by KAOKA. KAOKA also meets the cost of technical support and guidance to cooperatives. This includes the provision of a highly competent CEO for VOCGA.

VOCGA is responsible for the maintenance of systems that ensure the traceability of the product. This involves the internal production controls and the description of production plots and processing facilities. KAOKA supplies VOCGA with the polypropylene bags used for export. Dried beans must always be transported in these bags which are clearly identified for the exclusive use of KAOKA/VOCGA. Each bag for export is marked with a code: a letter to the cooperative origin of cocoa, 2 digits representing the week of bagging, 1 digit for the year of bagging (figure 15). At VOCGA's Lakatoro office, samples of beans from each production batch are stored to enable traceability back to the fermentary should problems be encountered in the market (figure 16). Good traceability is not only essential for certified organic production but is also becoming an increasingly important for other markets.

[15] This product was developed in Indonesia as part of a German Technical Cooperation (GTZ) project on the commercialisation of bio pesticides in SE Asia.

Figure 15 Bags with traceable codes

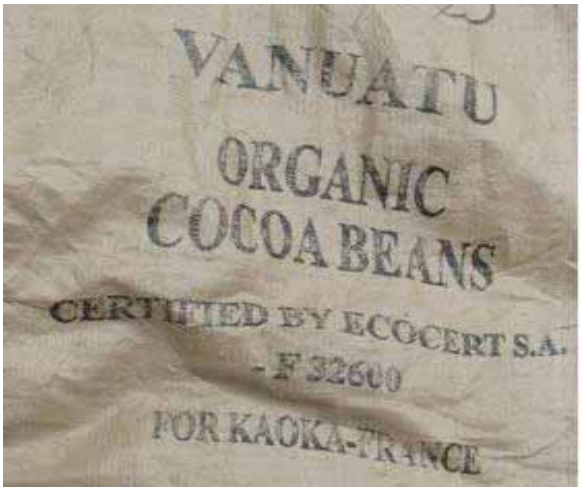


Figure 16. Samples from each processing batch held at the VOCGA Lakatora Office

Consignments are randomly checked on arrival for traces of banned chemicals (EEC Regulation 2092/91). If a banned chemical is observed with a content level below 5 ppb, the cooperative is required to report on surveys and the implementation of appropriate measures to address the problem. If observed concentration is above 5 ppb, samples are taken for further testing. In case of confirmation KAOKA has the right to terminate the contract. VOCGA has never received reports of banned substances at any level of contamination.

6.5.4 VOCGA's organization and management structure.

The overall organization structure of the VOCGA network is shown in figure 17 below.

Figure 17. VOCGA Network Organisation Structure

The VOCGA CEO, Pierre Watas, is a KAOKO employee paid directly by KAOKO, with the other Board members remunerated by VOCGA. The primary processing cooperatives that fall under the VOCGA umbrella have a similar organisational structure as shown in figure 19 for the Unmet Cooperative on Malekula.

Figure 18. The VOCGA Organisational Structure

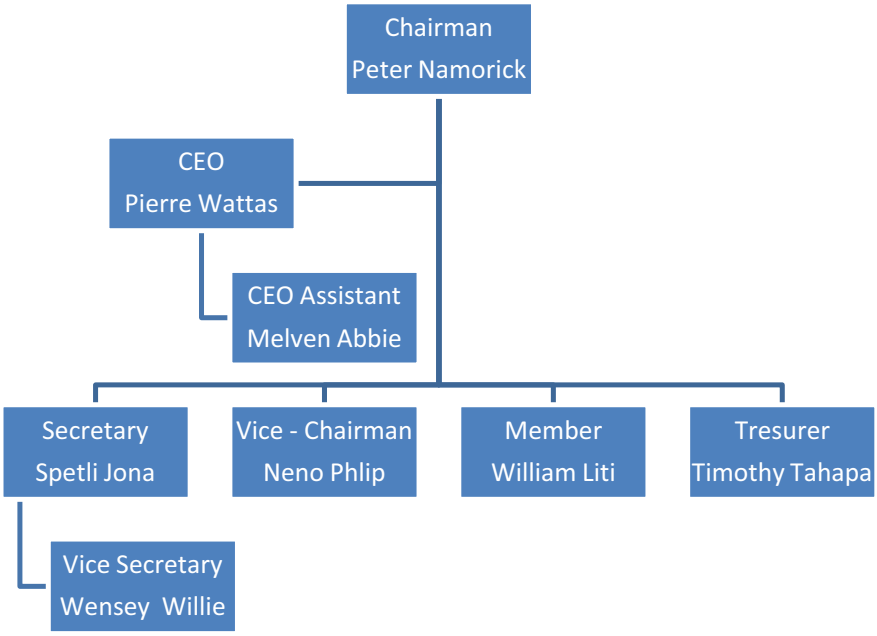
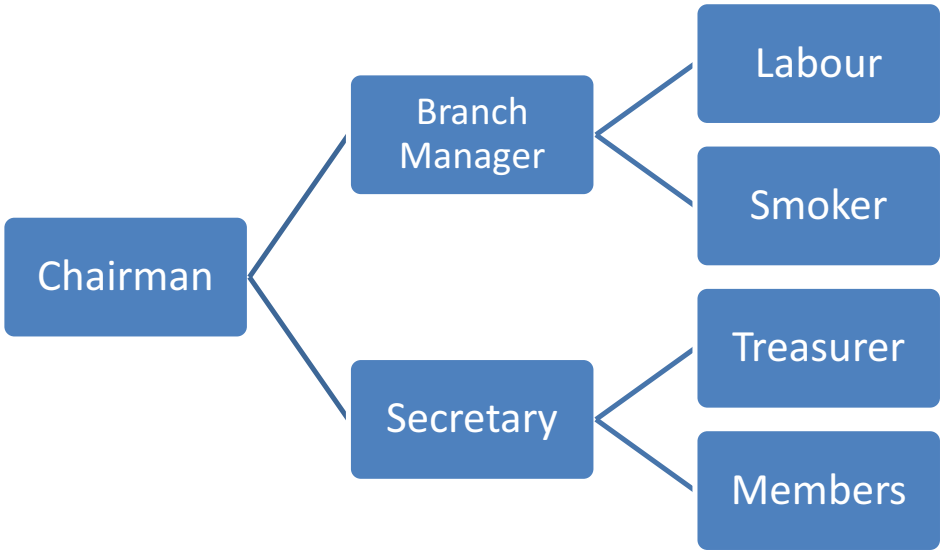


Figure 19. The management structure for the Unmet Cooperative.



Age, education and gender in VOCGA management

The age profile of the Board of Directors of VOCGA and the primary cooperatives is particularly striking. Management is made up almost entirely of young men in their twenties (figures 20 and 21). Interviews with the young managers and their village elders indicated that the elders have been more than happy for the youth to take on these positions of responsibility. A typical response from older men interviewed was “we would prefer to concentrate on our subsistence gardens and village affairs and let our young people take on these new responsibilities”. The role of elders has made a big difference in the lives of these young farmers and their families.

It is reported that the POP and POPACA projects were dominated by older farmers. The older farmers and elders after a series of meetings with the KAOKA team emphasized the importance of utilizing the village youth in this venture. The elders were particularly concerned with the adverse impact of urban drift on the village and its youth. This approach seems to have worked well. Livai Tora, co-author of this report, is rural youth leader and advocate from Fiji. The situation he found with VOCGA youth is in marked contrast to the situation with village youth in Fiji. There, youth tend to push back and bide their time to take on roles of leadership and responsibility. In the meantime many become disaffected and leave the village in search of employment and the bright lights of in urban areas. It is the empowering of rural youth that is perhaps the most important lesson learnt from the KAOKA/VOCGA experience.

Figure 20. The VOCGA Board of Directors*

* VOCGA Chairman Peter Namorick in the red shirt

Figure 21: The Unmet processing cooperative management

The VOCGA CEO, Pierre Chanel Watas, is a highly qualified and experienced cocoa person who was with VARTC for 10 years before joining the POPACA Project (figure 3). Pierre has an agronomy degree in Noumea and a master's degree from France and additional study in Portugal and Australia (UQ Rockhampton). The other Board members have all had secondary level education at the local high school up to forms 4 and 6. The POP and POPACA Projects have provided some business skill and book keeping training, which is ongoing through the Department of Cooperative.

Figure 22. Cash on delivery payment for wet bean supplies at the Unmet processing cooperative

While young men dominate the management of the VOCGA network, young women play a minimal management role. Their participation is confided to growers of wet beans and in selecting of dried beans.

6.5.5 Financing arrangements

KAOKA-VOCGA and the primary cooperatives network have in place a highly efficient financing and cash flow management system. The system has resulted in the sustained payment of cash on delivery for wet beans at the processing centres. Cash on delivery is a critical incentive to small holders and often is of greater importance than the actual price received. The system is based on the maintenance of 6 separate bank accounts

- An ANZ "central account" managed by the CEO. Payments for cocoa exported are paid into this account on the sighting of shipping documents. KAOKA's Vanuatu expenses are met out of this account.
- A NBV "logistics account" to meet VOCGA operating cost such as rent of premises, transport cocoa, handling, fuel, vehicle maintenance costs and courier costs.
- A NBV "operation account" to meet VOCGA salaries, travel, office operating cost and the Board costs.
- A NBV "donation account" that meets the cost of technical and social infrastructure, transportation equipment, office equipment and computers, and the more general structural and social needs of the organization. KAOKA makes a special donation to this account. The movement of funds from this account requires agreement from both KAOKA and VOCGA.
- A NBV "cocoa bean buying" account to meet cost of purchasing dried beans from the primary processing cooperatives. The "cocoa bean buying" is supplied by the central account based of the monthly supply projections of the CEO.
- The primary processing cooperatives all maintain their own separate bank accounts from which they purchase wet bean. These accounts are supplied by the NBV "cocoa bean buying" accounts based on weekly supply forecasts.

6.5.6 The use of formal contracts

The use of formal contracts between KAOKA and VOCGA and between VOCGA and primary processing cooperatives is a feature of the KAOKA/VOCGA systems. The contract explicitly details how the price for dry beans is determined and the quality and the organic standards that must be adhered to. These contacts are explained and reinforced on a regular basis by the VOCGA CEO and his assistants.

6.6 Performance evaluation

6.6.1 Export performance

VOCGA export performance is plotted in table 15 below.

Table 15: Cocoa export performance

	Tonnes exported	Average world market price for year (NY price USD/tonne)	Estimated VOCGA fob price (vatu/tonne)	Estimated VOCGA export earnings (million vatu)
2006	400	1,610	201,000	83.2
2007	317	2,420	218,000	69.1
2008	210	2,510	225,000	47.2
2009	312 (forecast)	3,010	250,000	75.0

VOCGA's best export performance year was in 2006, when 400 tonnes were exported for an estimated fob value 83.2 million vatu. The peak production of 2006 ironically can be explained by Cyclone Ivy that hit Malekula in 2004. The cyclone adversely affected production in 2004 and 2005, but substantially recovered in 2006 benefitting from the "radical pruning" provided by Ivy. By 2007 and 2008 the cocoa plantations had returned normal state of neglect with respect to pruning and production again fell. This experience provides strong evidence of the benefits that would accrue to VOCGA members if they undertook systematic and planned pruning operations. A significant turnaround in VOCGA exports occurred in 2009, with around 312 tonnes forecast for the year. This will generate around 80 million vatu into the economy of Vanuatu.

6.6.2 Product Quality

The quality of Vanuatu cocoa has moved, from a situation described by a former Director of Agriculture as: "*cocoa of any quality not accepted on the beach by one trader was likely to be bought by the next trader that came along, and the good and the bad - including even unfermented and smoke dried beans - were mixed and sold as one lot" (Weightman p, 213*)., to a situation where it is being identified as the single origin cocoa source of fine French organic chocolate.

6.6.3 Rural income generation

Most of income earned by VOCGA goes to the rural communities on Malekula and Malo. It is estimated that of the estimated 80 million vatu earned by VOCGA some 50 million vatu will be paid directly to rural household through the purchase of wet beans. The multiplier impact of this export income is substantial. It provided some 1,200 rural householders an average of 400,000 vatu each. Increasing VOCGA exports would contribute substantially to broadly based economic growth in Vanuatu. Households that concentrate on cocoa and substantially increase their yields are quite capable of earning 150,000 vatu/months for 6 months (some 900,000/annum. The recipients of this income have not been in a position to benefit from growth in tourism or Vila based economic development unless they or members of their family relocate. The VOCGA experience of the very real prospect of broadly based economic growth for Vanuatu.

6.6.4 The participation of youth in commercial agriculture

Perhaps the most notable feature of the VOCGA experience is in empowerment of youth to take leadership role in commercial agricultural developments. This augers well for the future of VOCGA. This model also presents a model for youth engagement in agriculture in the rest of Vanuatu and for the Pacific islands as a whole.

6.6.5 Management

A necessary condition for a successful agribusiness is good management. This has certainly been the case for the organizationally complex VOCGA. In the Pacific islands rarely do cooperatives of this scale can be sustained with such a clear record of accountability and good sound management.

Figure 23. Senior VOCGA management at work

6.7 Constraints and threats

6.7.1 Major constraints indentified by VOCGA management

VOCGA's management lists a number of major constraints.

- **Organic drying techniques more suitable for Vanuatu's wet conditions**. VOCGA have been experimenting with sarlon cloth on bamboo racks and shade cloth. Further technical assistance in this area has been requested.
- **High overhead cost of office and storage space rental**. The association currently has to rent storage and office space in Lakatoro and Luganville, which is very expensive and significantly diminishes profit margins. The longer run solution is for VOCGA to invest in its own facilities. As exports grow their will eventually be sufficient economies of scale to provide the retained earnings to make this investment. In the meantime this investment would seem to present an ideal project for the AusAID Enterprise Challenge Fund (ECF). The ECF provides matching grants for pro poor investments.
- **Insufficient supply**. KAOKA/VOCGA has made substantial investments in marketing infrastructure and organic compliance. To take full advantage of this investment there needs to be a substantial increase in exports. According to the VOCGA CEO there is a ready market for at least 800 tonnes of organic cocoa. The major challenge is for farmers to substantially increase their yields. There are opportunities to at least double yields with the introduction of management techniques based around improved pruning and integrated pest management techniques. It is envisioned that a forthcoming ACIAR Project will be able to work with VOCGA to introduce these techniques.
- **Maintaining organic discipline**. VOCGA has been introduced into a production system that was already essentially organic. However, maintaining the organic integrity of over 1,200 dispersed producers and 25 processing units presents a major ongoing challenge. The internal control systems that have been introduced have to date been successful in maintaining this integrity with no unsatisfactory residue levels recorded. Some cooperatives and a number of member plantations started using herbicides, which has led to their exclusion from VOCGA.

Rat control appears to be the only major ongoing problem in maintaining organic certification integrity. Some farmers have been tempted to use chemical baits and need to be repeatedly reminded that any chemical substance or residue will be traced back to them and will result in their deregistration as an organic supplier.

- **Poor infrastructure for transport and communications**: Poor transportation infrastructure on Malekula limits VOCGA outreach and substantially increases the cost of doing business. There are plans to upgrade the Malekula road system by constructing more feeder roads. This will greatly reduce the marketing cost of existing cocoa and hopefully lead to expanded cocoa plantings.

  Up until recently telecommunications posed a major constraint to the efficient operation of agribusiness that depends on sourcing and collecting product from widely dispersed rural communities. There has now been a dramatic change in this situation with entry of Digicel as a mobile phone provider. As a consequence there has been an explosion of mobile phone use in rural Vanuatu. All the VOCGA and Cooperative board members interviewed had a mobile phone as did many of the farmers. The current network coverage on Malekula extends to most, but not yet all, the VOCGA processing sights. Most of the Malo sights have mobile phone coverage. Basnett and Brien (2009) concluded that the advent of competition in Vanuatu's telecommunications sector is "affecting the value chains of small businesses by reducing the cost of doing business (incremental benefits) and expanding business opportunities (transformation benefits)" (p,55). Both benefits have clearly applied to VOCGA.

6.7.2 Other constraints and threats

The study team identified other constraints and threats, including:

- Predatory buyers
- The continued involvement of the VCMB

Predatory buyers

With the ending of the VCMB's direct involvement in cocoa marketing in 2003 there have been four entities involved in cocoa export marketing:

- The larger plantations (Metenesel and PRV)
- The Santo based Vanuatu Copra and Cocoa Exports (VCCE) now accounts for 60 % of Vanuatu's cocoa exports. The majority shareholder in VCCE is the Australian based Holland Commodities Ltd. Holland Commodities are also a main buyer of Solomon Islands cocoa.
- The Cocoa Growers Association (CGA), a product of POPACA, which purchases from non-organic cooperatives on Malekula and Ambae.
- VOCGA.

The presence of four buyers has had a positive impact on prices. However, these established exporters have tended to buy from growers in specific geographical areas with little direct interference with each other operations. The high prices on offer over the last few years have seen the entry of a number of small opportunist exporters who have made little or no investment in industry development. Amongst these buyers has been a local agent for an Australia based, so called "fair trade", company. The agent has been trying to attract supplies away from some of the processing facilities by offering unrealistic prices and accepting lower grading standards. This same company has been engaged in similar activities in Fiji and Samoa, which has undermined industry development.

KAOKA/VOCGA has been exceptionally transparent in its dealing with member cooperatives and shareholders and has invested considerable resources into developing a good relationship amongst suppliers. This seems to have created a high degree of supplier loyalty, particularly in the core production areas on Malekula. However, the predatory action of such buyers, fuelled by misinformation, poses an ongoing threat in situations where farmers have low relatively low levels of education and business experience.

The continued involvement of the VCMB in the industry

For more than a decade ending in 2003 cocoa was a prescribed commodity that could only be exported by the VCMB. The VCMB monopoly severely constrained the development of the industry. In 2003 the VCMB withdrew from direct cocoa marketing with the deregulation of commodity marketing under the Comprehensive Reform Program. However, the Board has continues in a "regulatory" role for prescribed commodities, which includes cocoa. The VCMB sees its new role as regulating and controlling the prescribed commodity industries through (i) the issue of export licenses; (ii) the control of quality; (iii) commodity data collection and dissemination; (iv) industry promotion through farmer support, and market development particularly of value added products. The operations are financed through commissions imposed on exporters prescribed commodities at the rate of: copra (US$ 8 per tonne); kava (5% on the FOB price) and cocoa (6% on the FOB price). However, apart from the issuing of export licenses the VCMB performs none of its purported functions. The commissions charged by the VCMB are in effect an export "tax". This tax is used to support the inefficient operations of an organization that makes no contribution to the industry or national development. Farmers bear these costs through the lower prices they receive for their products. On competitive international markets exporters cannot pass the commission on to their buyers so it is subtracted from the price paid to farmers.

Cocoa remains a prescribed commodity under the VCMB legislation which continues in force. The continued existence of the VCMB legislation hangs over the industry, with the threat that the VCMB marketing monopoly could be restored.

7 Key Findings and Discussions

7.1 Factors attributing to the success of VOCGA

A number of key factors have contributed the success of VOCGA. These are:

- The deregulation of cocoa marketing.
- The proactive involvement of KAOKA (the importing company) in the establishment of VOCGA and in its continued operations. This involved the considerable investment of funds and technical assistance. It is inconceivable that VOCGA could have been created and been successful without this level of involvement from KAOKA.
- KAOKA/VOCGA's transparency in dealing with village small holders.
- The initial infrastructure support provided by the POP and POPACA Projects.
- The quality and continuity of management. A highly competent CEO for VOCGA has served from the outset.
- The ability to manage cash flow to ensure that village farmers are paid cash on delivery for their wet cocoa beans
- The ability to integrate complex internal control systems into traditional farming systems.
- The establishment from the outset of clearly defined and enforceable quality standards.
- The empowerment of village youth to serve in management positions in the network of cooperatives and the support provided by village elders in these endeavours.

7.2 Technical, institutional and policy issues

7.2.1 The scope for increasing productivity through increasing productivity

VOCGA has provided a worthwhile income to a large number of small holders. There is a considerable scope to increase this income by raising productivity within the context of existing farming systems through the introduction extension program based on the Integrated Pest and Disease Management (IPDM)/Farmer Field School methodology. The participatory IPDM pilot strategy is based on the adoption of a successful extension model from East New Britain (ENB) and Indonesia (ACIAR project ASEM/2005/074). IPDM is in turn a modification of the Farmer Field School model that has been applied in many Asian and African countries. The lessons learnt from this experience are now being applied in the Solomon Islands and Fiji. These include:

- Allowing farmers to realise the full potential of the crop, through understanding of its biology and pest and disease cycle.
- Providing an understanding of integrated management of cocoa pests and diseases and its application to maximise production per tree.
- Changing farmers' mind-set in adopting cocoa farming as a business.
- Enhancing production through community participation in adoption of IPDM through a specifically tailored extension strategy.
- Designing non-chemical/pesticide crop management packages that involve interested farmers' groups to test higher yielding quality cocoa.
- Through adoption of IPDM, train participating farmers to select their own high-yielding trees on their farms for national evaluation and planting material improvement.

VOCGA with its network of grower cooperatives would be ideally placed to implement such a program. It is recommended that VOCGA be a partner in a new ACIAR cocoa development project proposed for the Solomon Islands, Vanuatu, Fiji and Samoa. This would involve the setting up of on-farm demonstration plots that will cater for the introduction of IPDM workshops. Farmer representatives will be trained in IPDM at the demonstration plot and then

commissioned to establish their own demonstration plot. These farmer representatives will conduct a tree and production census for farm management planning. The participating families should in turn establish IPDM learning plots via participatory action learning techniques.

When farmers have established their learning plots, they will receive further rounds of IPDM training utilizing the services of a cocoa IPDM specialist, and IPDM technicians sourced periodically from PNG. These technicians and farmers will facilitate agro-ecosystem analysis (AESA) and decision-making based on field observations across the IPDM groups. There will be weekly "look and learn" exchanges among the IPDM farmer groups. Through this participatory process, farmers will select superior germplasm for planting material improvement. At the end of the process, the farmer groups will organize annual field days to show the benefits of IPDM to a wider farming community.

Specific applied research technical assistance is required in two areas:

- effective and organic compatible means for rat control
- improving the efficiency of sun drying techniques for Vanuatu's wet conditions.

7.2.2 The setting and enforcing of quality standards

The setting and enforcing of grading and organic standards is entirely an internal matter for KAOKA/VOCGA based on the specific requirements of their market. This is a departure from the Pacific islands norm were standards are set and enforced by a commodity board or government agency. Even in Vanuatu the VCMB is responsible for enforcement of quality standards for prescribed commodities. In the case of cocoa, exporters pay a fee equivalent to 8% for this "service". Quality control is the function of the marketplace and determined by the requirements of buyers and agencies such as the VCMB has nothing to offer in this area. In the case of niche markets such involvement is not only unjustified it can prove counterproductive.

7.2.3 The role of government in developing niche commodity export industries

The Pacific islands region has a long history of direct government involvement and statutory authority involvement in commodity exporting. A Pacific Islands Development Program study concluded that this involvement had "been lacklustre and probably been a negative influence on long term commodity development" (McGregor, Sturton and Halapua 1992, p. 111). This negative impact has been particularly evident in the cocoa industry.

In the mid 1960s, the World Bank advised PNG of the importance of competitive marketing for coffee and cocoa. In accordance, the newly formed Cocoa and Coffee Boards refrained from becoming involved in physical marketing. As a result, a highly competitive cocoa marketing system evolved in PNG, well suited to the heterogeneous nature of market requirements. In contrast, Fiji, Samoa and, later, Vanuatu granted monopoly status to parastatal bodies. In all cases, the justification for government intervention was to improve quality, stabilise prices and increase the return to growers. The reality was quite different, with deteriorating product quality and high marketing margins. Fiji's National Marketing Authority (NMA) and Samoa's Cocoa Marketing Board (CMB) were identified as key factors in the demise of their respective export cocoa industries. In Vanuatu, almost two decades of monopoly cocoa marketing by the Vanuatu Commodity Marketing Board (VCMB) has meant that the cocoa industry has fallen far short of its potential. It is only with the removal of government involvement in cocoa marketing, that these industries have had the opportunity to develop some of the speciality niche markets in way that has been demonstrated by VOCGA.

The export of organic and single origin cocoa has been entirely driven by the private sector, made possible by the deregulation of cocoa marketing. The development has been facilitated by two aid supported project – POP and POPACA. Government, however, has a critical role to play in the sustainability of such ventures. In the case of VOCGA, this applies in three important areas:

- **Providing a facilitating environment for an efficient and competitive telecommunications sector**. The deregulation of the sector to allow the entry of the Digicel mobile phone provider has been a large positive step in this direction. This contrasts markedly to the situation in the Solomon Island where this factor remains a detriment to rural development.
- **The provision of road infrastructure**. The VOCGA model involves the collection of dried bean from central cooperative processing facilities. Thus it can only operate in locations where there is reasonable road access. Thus large areas of Malekula and other islands, that are suitable for cocoa production, are precluded because they don't have such access. It is the responsibility of government to provide such infrastructure.
- **Applied cocoa research activities**. Under the auspices of various French research institutions, Vanuatu has had a longstanding and active cocoa research program, which has underpinned the development of the industry. The government funded Vanuatu Agricultural Research and Training Center (VARTC) has inherited this program and facilities. VARTC's R&D work programme continues to include:
  - Cocoa genetic resources, through the maintenance of the VARTC field gene bank and the maintenance of clonal seed garden
  - Cocoa breeding through the continuation of the selection programme of hybrids adapted to Vanuatu conditions

  Unfortunately in recent years, VARTC has been severely under resourced and thus limited in its ability to carry out core activities necessary for an expanding industry.

7.2.4 Cooperatives as an appropriate business model for developing niche commodity exports.

Cooperatives have been highly successful agribusiness marketing cooperatives in countries such as the United States and New Zealand. Some of the well known cooperative agribusiness marketing brands in the United States include: Land O'Lakes (dairy products), Blue Diamond (almonds) Sunkist (citrus) and Welch (fruit juices). In New Zealand the cooperative brands include the dairy giant Fonterra that involved the merger of the two largest dairy cooperative when the New Zealand Dairy Board, was abolished in 2001. Fonterra is a co-operative with over 13,000 shareholders. In contrast in the Pacific islands the record of marketing cooperatives has been poor. The experience of VOCGA and Natures Way Cooperative (NWC) in Fiji has proven to be exceptions to the rule. What VOCGA and NWC have had in common is long term high quality management.

7.2.5 Establishing in situ buying points can substantially increase grower income

The 1998 Vanuatu Land Use Planning Project, Cocoa Profile pointed to substantial income loss to Malekula cocoa farmers resulting from the absence of a dry bean buying point on the island. The report described the situation as follows:

> Farmers now have two options in selling their dry cocoa beans: they can take it to the VCMB buying point on Santo, or sell to a dealer. The cost of freighting cocoa from Malekula to Santo is 800 vatu/62.5 kg bag. The cost of the passage is 4,000 vatu and return journey will take 2 to 3 days. Thus for a consignment of less than several hundred kgs a trip to Santo to sell cocoa directly to VCMB cannot be financially justified. Thus most small holders now resort to selling their dried cocoa beans to a trader (usually a ship-owner). Thus these farmers receive the "beach price, which is invariably the grade 3 price regardless of the quality of cocoa on offer. The prevailing Malekula beach price in October 1998 was 55 to 65 vatu/kg. The current system means that there is little incentive for the small-holder to improve quality – with any benefits from an improvement in quality being captured by the trader. Thus the substantial improvements in the quality of Vanuatu cocoa that have resulted from farmer education and the introduction of grading standards are being lost and there is a risk of returning to the bad old days as described by Weightman
>
> One solution to the problem would be the re-establishment of a buying point on Malekula. Such a venture would likely have a high rate of economic return to the country. The financial benefits to the growers would even be even more significant. Assume the buying point led to

only a 10% increase in grade 1 (around 50 tonnes) and 20% increase in grade 2 (around 80 tonnes). The increase in revenue from upgrading 50 tonnes of grade 3 to grade 1 would be 2.1 million vatu, and the upgrading of 80 tonnes from grade 3 to grade 2 would generate a further 1.2 million vatu. These revenue increases result from only minimal improvements in quality – much more substantial improvements in quality could be expected.

The high economic rate of return suggested in the Cocoa Profile has been more than realised with the commencement of VOCGA's cocoa buying operations on Malekula. However, any buying point operation in more remote areas must be operated by the private sector and have a reasonable supply base if it is to be sustainable. The Fiji experience has shown that when governments or parastatal agencies are involved in establishing and operating remote buying locations they are not sustainable.

7.2.6 A proliferation of grower organisations

Out of the POP/POPACA emerged two producing organisation marketing cocoa – VOCGA and the Vanuatu Cocoa Growers Association (CGA). Both are based on a formal cooperative model and focus their operations on Malekula. VOCGA has been very successful. Indications are that CGA fulfils a very useful function – although cocoa quality is not as good and they do not have organic certification. CGA now has around 1200 members, who belong to 19 separate cooperatives, located on Malekula, Ambae and Malo. Members sell wet beans to these cooperatives that have fermentation and drying centres in key villages. Dried beans are then transported to Lakatoro where CGA has its office and warehouse. CGA's export performance to date has been 2006 (150 tonnes), 2007 (150 tonnes) 2008 (75 tonnes). All CGA cocoa is now exported to Singapore. Past efforts to export to France (Valhrona) proved unsuccessful due to smoke contamination. According to ACIAR (2009) many of CGA's small farmers are drying cocoa on defective dryers that have not been maintained.

VOCGA and CGA members are exactly the same type of rural people who have identical farming systems. The only difference is that VOCGA has certified organic markets and put into place internal control systems that their growers comply with the standards of that market. The VOCGA growers are accordingly rewarded with significantly higher prices. Given that VOCGA has not been able to meet KAOKA supply requirements it would seem logical that these two associations be amalgamated under the VOCGA banner. Such an amalgamation would provide significant scale of economies that would reduce marketing costs of both operations.

7.3 Key lessons learnt from the VOCCGA experience

The key lessons from the VOCGA experience include:

- High quality cocoa exports can be a lead sector in broadly based economic growth.
- There are remunerative market opportunities available for organic and single origin commodities such as cocoa
- It is feasible to source significant volumes of certified organic product from Pacific island village farmers provided appropriate organizational support and internal control systems are in place.
- A substantial agribusiness can be successfully run as a cooperative in the Pacific islands if it has good management.
- Niche commodity export markets can only be developed if commodity marketing is deregulated and government and parastatal involvement removed.
- For niche commodity export industries quality standards should be set by the businesses developing the market and not by commodity boards and government agencies.
- These initiatives must be entirely private sector driven.
- Aid donors have an important facilitating role to play.
- Village youth can be empowered to take a successful leadership role in commercial agricultural development provided they get the necessary support from their elders.

- Companies wishing to source significant volumes of organic and single origin commodities from the Pacific islands need to be proactively involved in the development of these industries including making significant investment.

7.4 Opportunities for scaling-up and replication

7.4.1 Expanding VOCGA operations

The VOCGA CEO indicates that KAOKA can readily adsorb double the current supply of certified organic cocoa from Vanuatu. It would seem that VOCGA would have little difficulty in selling 1,000 tonnes of high quality certified organic/single origin cocoa in Europe and the United States. Exports of 1,000 tonnes could be achieved in a combination of ways:

- Increasing the yields of existing members through the introduction of improved farm management practices and on farm selection of better yielding trees.
- An amalgamation with CGA.
- Extending operations to new areas opened up by road infrastructure.

It would seem that VOCGA has the management and systems infrastructure to handle a significant increase in exports. Investments need to be made in storage and office facilities. The expanded throughput would make these investments economically viable.

7.4.2 New entrants to the Vanuatu organic/single origin industry

VOCGA's success, combined with the high world market prices for cocoa, is starting to attract new entrants. In particular an Australian company, under the guise of "fair trade" has begun sourcing cocoa from Vanuatu and undermining VOCGA operations. The Vanuatu cocoa supply base is too small for such competition to be helpful unless such new companies were willing to make substantial investment in industry development.

7.4.3 Replicating the VOCGA experience

Organic certification and single growing export marketing is not new to Pacific islands. However, VOCGA is perhaps the largest and most significant development in this respect. The VOCGA experience has shown that Pacific island small holders, with the right organization and support, can successfully produce for certified organic and single origin markets on a significant scale. However, to successful this requires the involvement of companies such a KAOKA who are willing to be proactively involved in the development of these industries including making significant investment. Examples of such companies and organizations are:

- Tanna Coffee and Venui Vanilla in Vanuatu
- Coconuts Pacific (Solomon Islands) Ltd.

Tanna Coffee has already developed a successful single origin brand for roasted coffee from Tanna. There would be good scope for adding organic certification to this label. Current exports are less than 100 tonnes. These would probably have to be significantly expanded to justify the overhead costs of organic certification.

Venui Vanilla, through the Farm Support Association (FSA) extension network, already has certified organic/single origin status for high quality vanilla. There is scope for the expansion of existing arrangements, including expansion into new areas such as Tanna.

High quality cold press virgin coconut is another product that lends itself to organic certification and single origin marketing. This has been successfully done in the Solomon Islands and Samoa under the auspices of Coconuts Pacific (Solomon Islands) Ltd.

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